Oracle® Business Intelligence Discoverer

Configuration Guide

10*g* Release 2 (10.1.2.1) for Microsoft Windows and Solaris Operating System (SPARC)

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Oracle Business Intelligence Discoverer Configuration Guide, 10*g* Release 2 (10.1.2.1) for Microsoft Windows and Solaris Operating System (SPARC)

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Preface

Welcome to Oracle Business Intelligence Discoverer (OracleBI Discoverer)!

This guide explains how to configure and customize Discoverer Plus (Relational and OLAP) and Discoverer Viewer after they have been installed as part of Oracle Application Server or from the Oracle Business Intelligence standalone CD.

This guide does not explain how to install OracleBI Discoverer. For information about installation, refer to the Oracle Application Server Installation Guide or the Oracle Business Intelligence Installation Guide.

To use this guide effectively, we recommend that you are already familiar with HTTP servers and database concepts.

For the latest information about OracleBI Discoverer, please read the OracleBI Discoverer Release Notes in conjunction with this guide.

Intended Audience

This guide is intended for OracleAS administrators (also referred to as Discoverer middle tier administrators).

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OracleBI Discoverer Navigation and Accessibility

Keyboard Navigation

OracleBI Discoverer supports standard keyboard navigation. Standard keyboard navigation includes the use of the tab key, mnemonics (using the Alt key and the underlined character), and accelerators (such as Alt+F4 to exit a window).

Using the JAWS screen reader with Discoverer

If users use Discoverer with a screen reader (e.g. JAWS), you must do the following to maximize usability:

- display Discoverer Plus in a separate window by deploying Discoverer Plus with the framedisplaystyle configuration value set to 'separate' (for more information, see Section 11.6, "Discoverer Plus URL parameters").

To further maximize usability, you might also make sure that the screen reader has sufficient time to read a page before the page is refreshed by delaying the query progress page.

Related Documents

You can access the documents referenced in this guide, and other information about Oracle Business Intelligence (e.g. whitepapers, best practices, documentation updates, other collateral) on Oracle Technology Network at:

http://www.oracle.com/technology

Conventions

Conventions used in this manual are shown in the table below:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.
< >	Angle brackets enclose user-supplied names or values.
[]	Square brackets enclose optional clauses from which you can choose one or none.

Convention	Meaning
Menu name | Command	Text in this format conveys a sequence of menu choices, e.g. choose the menu, then the command under that menu.

JGoodies License Agreement

Oracle Business Intelligence includes the JGoodies software, whose License Agreement follows:

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Introducing OracleBI Discoverer

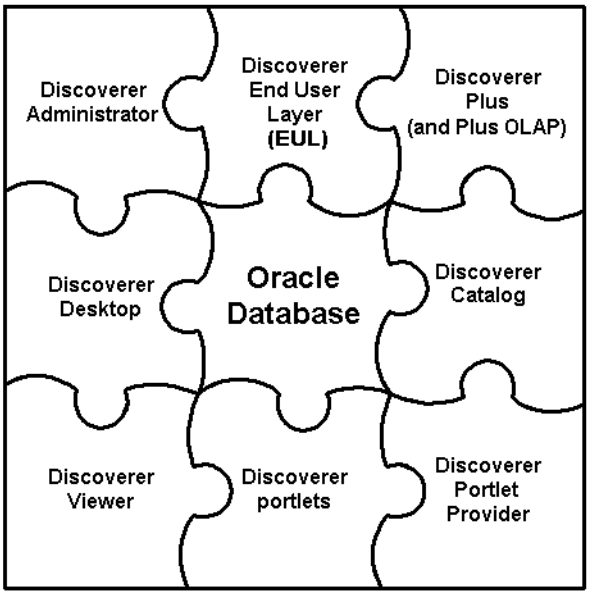
This chapter introduces OracleBI Discoverer and contains the following topics:

1.1 What is OracleBI Discoverer?

OracleBI Discoverer is a business intelligence tool for analyzing data and is a key component of Oracle Business Intelligence and Oracle Application Server (OracleAS). Discoverer provides an integrated business intelligence solution comprising intuitive ad-hoc query, reporting, analysis, and Web-publishing functionality. These tools enable non-technical users to gain immediate access to information from data marts, data warehouses, multidimensional (OLAP) data sources, and online transaction processing systems. OracleBI Discoverer integrates seamlessly with OracleAS Portal, enabling rapid deployment of Discoverer workbooks and worksheets to Web portals.

OracleBI Discoverer comprises a number of integrated components that work together with the Oracle database to give you a complete and integrated Business Intelligence solution. The figure below shows Discoverer components.

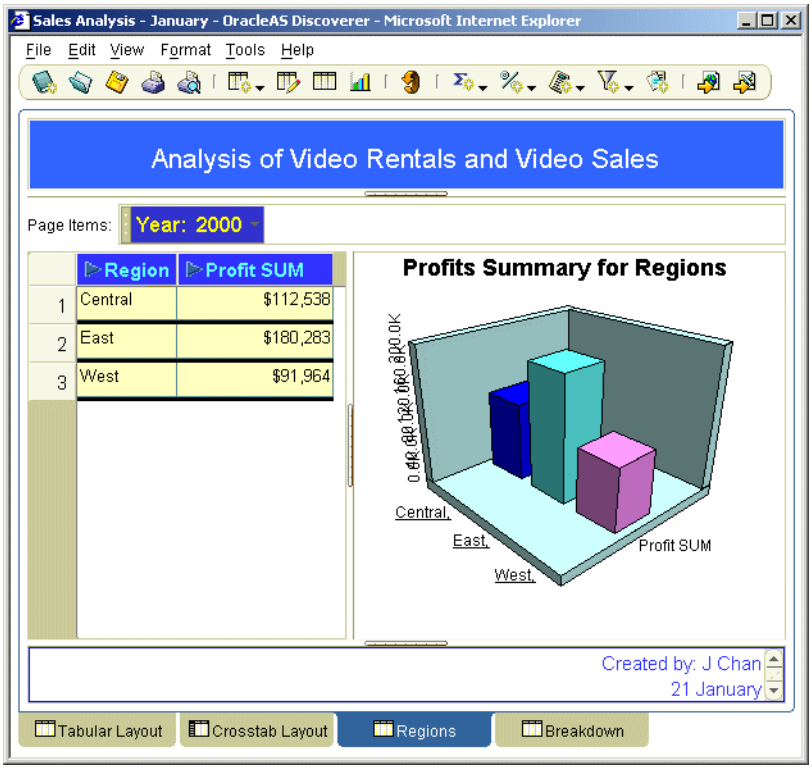
Figure 1–1 Discoverer components



The two main OracleBI Discoverer business analysis tools for end users are:

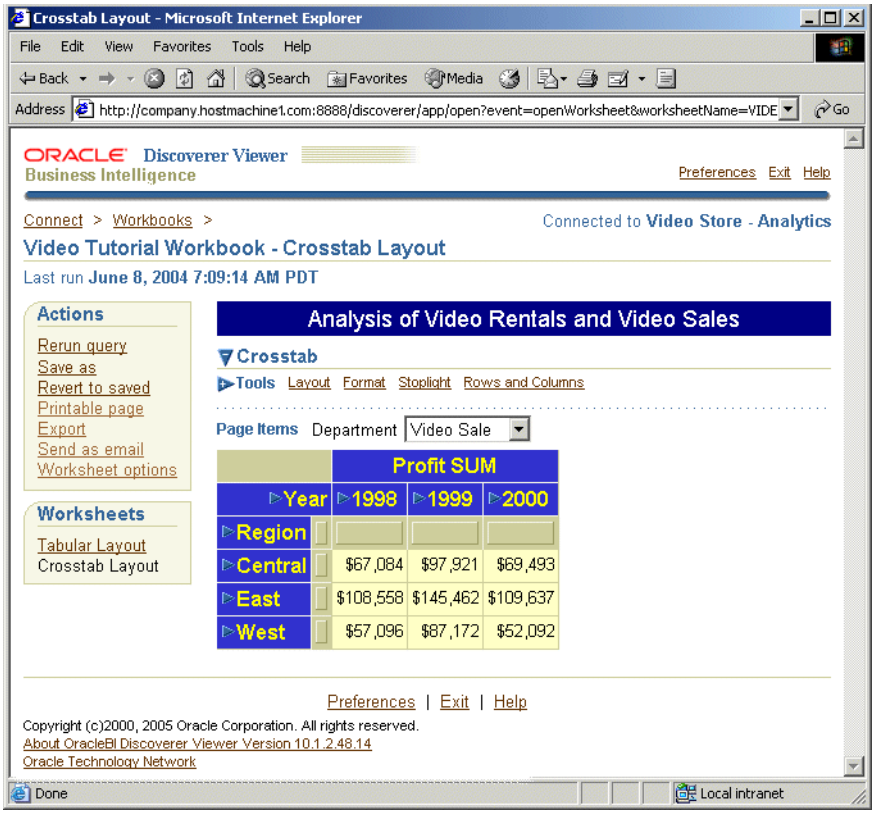
- Discoverer Plus is a Web tool enabling users to analyze data and create reports without having to understand difficult database concepts. Using Wizard dialogs and menus, Discoverer Plus guides users through the steps needed to create powerful reports and charts that can be accessed using Discoverer Plus, Discoverer Viewer, and Oracle Portal.

Figure 1–2 OracleBI Discoverer Plus



- Discoverer Viewer is a Web tool for accessing interactive reports and charts created using Discoverer Plus. Because Discoverer Viewer is a thin client HTML tool, users require only a Web browser to run Discoverer Viewer. Discoverer Viewer can also be used to publish reports into a portal, and is easily customized to conform to a particular Web site look and feel. Discoverer Viewer is optimized for performance and designed to minimize network traffic.

Figure 1–3 OracleBI Discoverer Viewer



Discoverer also includes Discoverer Portlet Provider, which is used to publish Discoverer worksheets and graphs in Oracle Portal (for more information, see Chapter 11, "Using OracleBI Discoverer with OracleAS Portal").

Oracle Application Server Control enables you to manage Discoverer middle tier components (for more information, see Section 5.1, "About Oracle Enterprise Manager Application Server Control").

A typical workflow for Discoverer is:

- Discoverer Plus users (sometimes referred to as power users) create interactive reports and charts. Reports typically include powerful business intelligence components that enable end users to analyze data (e.g. parameters, conditions, totals).
- Discoverer Viewer users access the interactive reports and can typically personalize reports in a restricted number of ways (e.g. drilling to the data that they require, applying parameters, adding stoplight formats).

1.2 What are the new configuration features in OracleBI Discoverer 10*g* Release 2 (10.1.2)

This section lists the key configuration changes in OracleBI Discoverer 10*g* Release 2 (10.1.2).

1.2.1 User preference changes

This section lists changes to user preferences. For a complete list of user preferences, see Section 10.6, "List of Discoverer user preferences".

1.2.1.1 User preferences removed

The following user preferences have been removed:

- DefaultUserTypeIsApps (for more information about Oracle Applications connections, see Chapter 15, "OracleBI Discoverer and Oracle e-Business Suite")
- Outoffetch
- ShowUserTypeChoice (for more information about Oracle Applications connections, see Chapter 15, "OracleBI Discoverer and Oracle e-Business Suite")
- MachineIPs
- Title

1.2.1.2 User preferences added

The following user preferences have been added:

- AdjustPlusFontSize
- AggregationBehavior
- AvoidServerWildCardBug
- DefaultExportPath
- DisableClassicExports
- MRUEnabled
- ScatterGraphDataModel

1.2.2 URL parameter changes

This section lists changes to URL parameters. For a complete list of URL parameters, see Chapter 13, "Starting OracleBI Discoverer using URL parameters".

1.2.2.1 URL parameters removed

The following URL parameters are no longer supported:

Table 1–1 URL parameters no longer supported

URL parameter	URL parameter	URL parameter	URL parameter	URL parameter
aow=	con_name=	cp_width=	nls_number_ format=	password=
arq=	con_nlsl=	cs=	nls_numeric_ characters=	pg=

Table 1–1 (Cont.) URL parameters no longer supported

URL parameter	URL parameter	URL parameter	URL parameter	URL parameter
brandimage= (for Discoverer Plus Relation	con_pw=	fm=	nls_sort=	pw=
con_db=	con_rs=	locale=	nlsdateformat=	qpd=rd=
con_del=	con_sg=	newpw1=	nlsdatelanguage =	tsc_d!=
con_del=	con_us=	newpw2=	nlsl=	tsc_g!=
con_eul=	connect=	nls_date_ format=	nlslang=	tsc_h!=
con_key=	cp_height=	nls_date_ language=	nlsnumeric_ characters=	
con_lm=	cp_show_ legend=	nls_lang=	nlssort=	

1.2.2.2 URL parameters added

The following URL parameters have been added:

- helpset=
- ReuseConnection=

1.2.3 Discoverer Plus look and feel

You can now change the look and feel for Discoverer Plus using Oracle Application Server Control. For example, you might want to change the look and feel (LAF) in Discoverer Plus. For more information, see Chapter 9.1, "Customizing Discoverer Plus".

1.2.4 Discoverer Viewer customization

You can now customize more of the Discoverer Viewer interface using Oracle Application Server Control. For more information, see Chapter 9.2, "Customizing Discoverer Viewer".

1.3 About configuring OracleBI Discoverer

After installation, OracleBI Discoverer works without requiring any further configuration. Depending on your requirements, you might want to perform one or more of the Discoverer middle tier configuration tasks in the table below.

What do you want to do?	Look in this section:
Associate a Discoverer installation with an OracleAS Infrastructure.	Chapter 2, "About Oracle Business Intelligence installations and OracleAS Infrastructures"
Configure Discoverer for use with Oracle applications.	Chapter 15, "OracleBI Discoverer and Oracle e-Business Suite"
Configure Discoverer to work with firewalls and demilitarized zones.	Chapter 14, "Maintaining security with OracleBI Discoverer"

What do you want to do?	Look in this section:
Configure the Discoverer middle tier using Application Server Control (e.g. starting and stopping the Discoverer Service).	Chapter 5, "Managing and configuring OracleBI Discoverer"
Confirm a Discoverer installation.	Section 1.4, "How to confirm an OracleBI Discoverer installation"
Create public connections (i.e. database logins).	Chapter 4, "Managing OracleBI Discoverer connections"
Customize the appearance of OracleBI Discoverer Viewer.	Chapter 9, "Customizing OracleBI Discoverer"
Deploy Discoverer with OracleAS Web Cache to improve performance.	Chapter 8, "Using OracleBI Discoverer Viewer with OracleAS Web Cache"
Deploy specific Discoverer workbooks and worksheets using URL details.	Chapter 13, "Starting OracleBI Discoverer using URL parameters"
Find out about administrative accounts used by OracleBI Discoverer.	Appendix C, "OracleBI Discoverer administrative account information"
Find out about Discoverer configuration files.	Appendix A, "OracleBI Discoverer configuration files"
Fine tune Discoverer for optimal performance and scalability.	Chapter 12, "Optimizing OracleBI Discoverer performance and scalability"
Install and configure the Discoverer Catalog for Discoverer Plus OLAP.	Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP"
Provide load balancing for Discoverer, or specify a central Discoverer Preferences server.	Chapter 7, "Installing OracleBI Discoverer in a multiple machine environment"
Register the Discoverer Portlet Provider for use with OracleAS Portal (mandatory if you want to create Discoverer portlets).	Chapter 11, "Using OracleBI Discoverer with OracleAS Portal"
Run Discoverer Plus or Discoverer Viewer.	Chapter 3, "Starting OracleBI Discoverer"
Specify Discoverer end user preferences.	Chapter 10, "Managing OracleBI Discoverer preferences"
Upgrade Discoverer to a newer version.	Appendix B, "Upgrading from earlier versions of Discoverer"

1.4 How to confirm an OracleBI Discoverer installation

If you have installed OracleAS, you might want confirm that the OracleBI Discoverer installation is correct by running Discoverer Viewer.

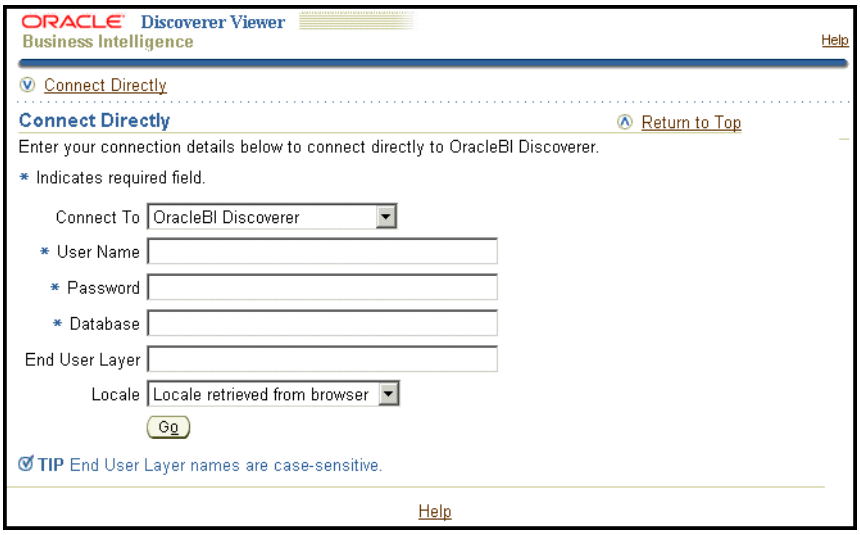
To confirm an OracleBI Discoverer installation:

1. Start a Web browser and enter the Discoverer Viewer URL containing the fully qualified host name (including port number if necessary) used by your own OracleAS installation.

   For example:

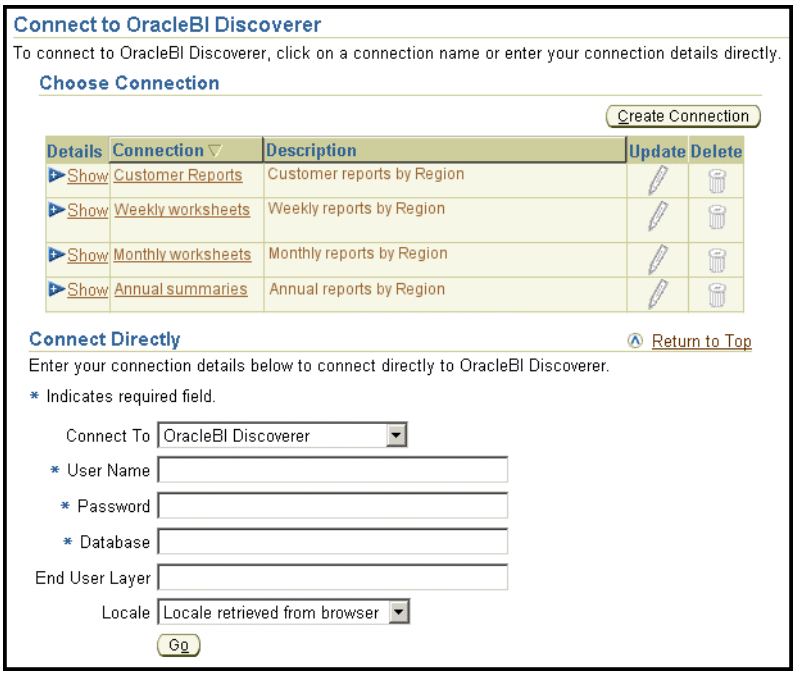
http://<*host.domain*>:<*port*>/discoverer/viewer

If the Discoverer installation is not associated with an OracleAS Infrastructure, end users connect directly using the Connect Directly area of the Connect to OracleBI Discoverer page (see screenshot below).



Note: If Single Sign-On is enabled, you will first be asked to authenticate as a Single Sign-On user.

If the Discoverer installation is associated with an OracleAS Infrastructure, the Connect to Discoverer Viewer page is displayed (see screenshot below).



2. If the Choose Connection area is displayed, do one of the following:
   - Select a connection name in the **Connection** column to start Discoverer Viewer.

- Create a private connection to store database login details (click Create Connection to add a private connection), then select the new connection.
- Use the Connect Directly area to enter login details, then click Go to start Discoverer Viewer.

3. If only the Connect Directly area is displayed, enter login details and click OK.

   Discoverer displays the Worksheet List page, which enables you to select a worksheet to open. You can now begin to analyze data using Discoverer's powerful business intelligence analysis tools.

Notes

- For more information about how to create a private connection, see *Oracle Business Intelligence Discoverer Plus User's Guide*.
- For more information about starting Discoverer Viewer, see Section 3.11, "How to start Discoverer Viewer over HTTP".
- For more information about starting Discoverer Plus, see Section 3.6, "About running Discoverer Plus over HTTP for the first time on a client machine".
- You can use the checkdiscoverer utility to verify a Discoverer configuration and report on failures or anomalies (for more information about the checkdiscoverer utility, see Section D.2.2, "What is the checkdiscoverer utility?").
- Discoverer Plus OLAP has its own diagnostics utility (for more information, see Section 6.6, "What is the configuration diagnostic utility for Discoverer Plus OLAP?").

1.5 About connecting to Discoverer

Discoverer end users connect to Discoverer in the following ways:

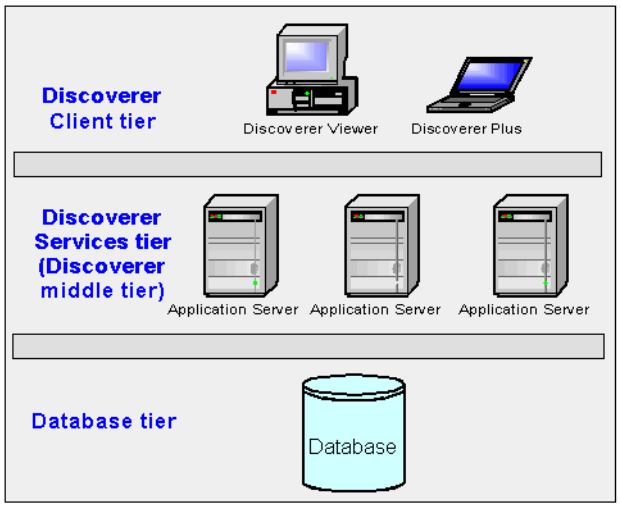
- using OracleBI Discoverer Desktop, end users log in using their database user name and password (for more information, see *Oracle Business Intelligence Discoverer Desktop User's Guide)*
- using OracleBI Discoverer Plus or OracleBI Discoverer Viewer, end users store login information in private connections, then select a connection (for more information, see *Oracle Business Intelligence Discoverer Plus User's Guide* or *Oracle Business Intelligence Discoverer Viewer Online Help*)

Discoverer middle tier managers can also provide public connections that enable Discoverer Plus and Discoverer Viewer end users to start Discoverer automatically without having to enter login details. For more information, see Section 4.6, "How to create public connections".

1.6 What is the OracleBI Discoverer architecture?

OracleBI Discoverer has a multi-tier architecture. This architecture takes advantage of the distributed nature of the Web environment. While it is possible to install all tiers of the OracleBI Discoverer architecture on the same machine, we recommend distributing your installation over multiple machines to maximize performance and reliability.

Figure 1–4 Discoverer's multi-tier architecture



Note: Multiple application servers can be installed on the same machine.

Discoverer's multi-tier architecture comprises:

- The Discoverer client tier, from which Web browsers access Discoverer (for more information, see Section 1.7, "About the Discoverer client tier").
- The Discoverer Services tier (also referred to as the Discoverer middle tier) including one or more OracleBI Discoverer installs and one OracleAS Infrastructure install. For more information, see Section 1.8, "About the Discoverer Services tier".
- The Discoverer database tier, containing data and metadata (for more information, see Section 1.9, "About the Discoverer database tier").

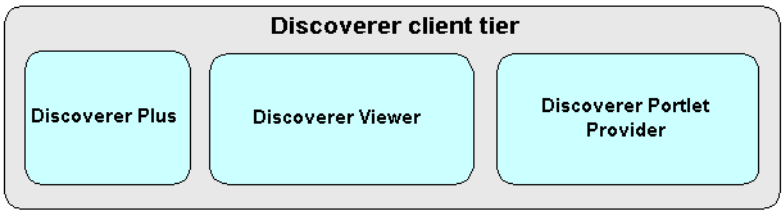
Notes

- For more information about configuring Discoverer on multiple machines, see Chapter 7, "Installing OracleBI Discoverer in a multiple machine environment".

1.7 About the Discoverer client tier

The Discoverer client tier is the Web browser accessing Discoverer Plus or Discoverer Viewer (see figure below). The Discoverer client tier also includes Discoverer Portlet Provider, which is used to publish Discoverer workbooks using OracleAS Portal. To deploy Discoverer Plus and Discoverer Viewer to end users, you must provide them with an appropriate URL (for more information, see Chapter 3, "Starting OracleBI Discoverer").

Figure 1–5 The Discoverer client tier



You can enable and disable Discoverer client tier components using Application Server Control (for more information, see Section 5.4, "About disabling and enabling Discoverer client tier components").

1.7.1 About the Discoverer client tier and Discoverer Plus

For Discoverer Plus, the only requirement for the client machine is that it runs a supported Java-enabled Web browser (e.g. Microsoft Internet Explorer, Netscape Navigator, or Mozilla Firefox), with a Java Virtual Machine (JVM). For more information about sofware requirements, see *Oracle Business Intelligence Installation Guide*.

The first time that a machine is used to connect to Discoverer, the Discoverer Plus applet is downloaded from the Discoverer Services tier and cached on the client machine.

The Discoverer Plus applet provides the Discoverer Plus user interface and functionality for creating workbooks and analyzing data. When the user logs on subsequently, the Discoverer Plus applet runs from the local cache and does not need to be downloaded.

Note: If you upgrade Discoverer, users might have to download the Discoverer Plus applet again to Discoverer client machines (for more information, see Chapter 3, "Starting OracleBI Discoverer").

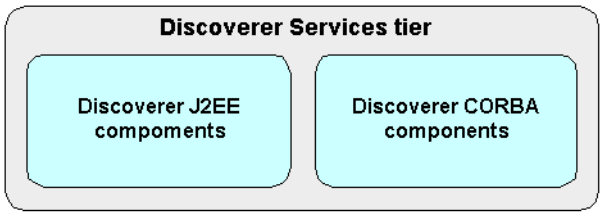
1.7.2 About the Discoverer client tier and Discoverer Viewer

For Discoverer Viewer, the minimum requirement for the client machine is that it can run HTML through a Web browser. For information about supported Web browser versions for Discoverer, see *Oracle Business Intelligence Installation Guide.*

1.8 About the Discoverer Services tier

The Discoverer Services tier is the portion of the Discoverer architecture that the Discoverer middle tier manager maintains.

Figure 1–6 Discoverer Services tier



The Discoverer Services tier consists of:

- the Discoverer J2EE components (for more information, see Section 1.8.1, "About the Discoverer J2EE components")
- the Discoverer CORBA components (for more information, see Section 1.8.2, "About the Discoverer CORBA components (Discoverer Service)")

Notes

- The Discoverer Services tier also stores the Discoverer Plus applet, which is downloaded to client machines when Discoverer end users run Discoverer Plus

for the first time (for more information, see Chapter 3, "Starting OracleBI Discoverer").

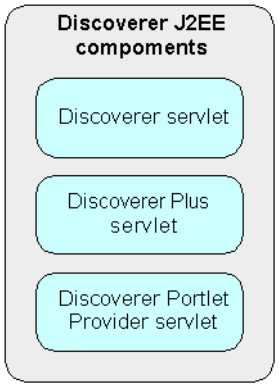
- All machines running the Discoverer middle tier components must be on the same subnet.

1.8.1 About the Discoverer J2EE components

The Discoverer J2EE components comprise the following:

- the Discoverer servlet (for more information, see Section 1.8.1.1, "What is the Discoverer servlet?")
- the Discoverer Plus servlet (for more information, see Section 1.8.1.2, "What is the Discoverer Plus servlet?")
- the Discoverer Portlet Provider servlet (for more information, see Section 1.8.1.3, "What is the Discoverer Portlet Provider servlet?")

Figure 1–7 Discoverer J2EE components



A servlet comprises modules of Java code that run on a server machine to answer requests from client machines. Using a servlet minimizes client-side processing.

The Discoverer servlets are deployed into the OC4J (Oracle Components for Java) environment, which includes a servlet engine to run servlets.

For more information about starting and stopping Discoverer servlets, see Section 5.5, "How to start and stop the Discoverer servlets".

1.8.1.1 What is the Discoverer servlet?

The Discoverer servlet manages connections and login for Discoverer Plus and Discoverer Viewer.

1.8.1.2 What is the Discoverer Plus servlet?

The Discoverer Plus handles traffic between the Discoverer Plus Relational applet and the Discoverer Session process started for that session.

1.8.1.3 What is the Discoverer Portlet Provider servlet?

The Discoverer Portlet Provider servlet provides a user interface for publishing Discoverer worksheets and links to Discoverer workbooks on an OracleAS Portal page. For more information about Discoverer Portlet Provider, see Chapter 11, "Using OracleBI Discoverer with OracleAS Portal".

1.8.2 About the Discoverer CORBA components (Discoverer Service)

The Discoverer CORBA (Common Object Request Broker Architecture) components are responsible for activating Discoverer when an end user starts a Discoverer session (i.e. when a user connects to Discoverer Plus or Discoverer Viewer).

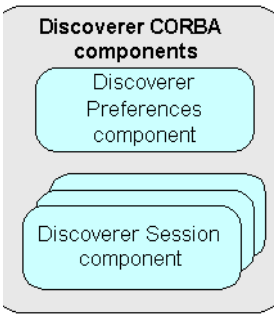
Note: Collectively, the Discoverer CORBA components are referred to as the Discoverer Service (for more information, see Section 5.3, "About starting and stopping the Discoverer Service").

The Discoverer CORBA components are used by all of the Discoverer client tier components (i.e. Discoverer Plus, Discoverer Viewer and Discoverer Portlet Provider).

The Discoverer CORBA components comprise the following:

- the Discoverer Session component (for more information, see Section 1.8.2.1, "What is the Discoverer Session component?")
- the Discoverer Preferences component (for more information, see Section 1.8.2.2, "What is the Discoverer Preferences component?")

Figure 1–8 Discoverer CORBA components



1.8.2.1 What is the Discoverer Session component?

The Discoverer Session component (also referred to as a CORBA server) performs Discoverer operations such as connecting to the database or opening a workbook. The Discoverer Session component provides the link between the Discoverer servlet or applet and the database. There is one Discoverer Session component per active user login session.

1.8.2.2 What is the Discoverer Preferences component?

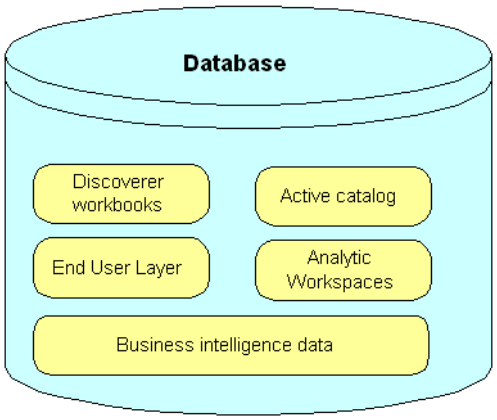
The Discoverer Preferences component provides a single location for preference settings for all OracleBI Discoverer users (i.e. users of both Discoverer Plus and Discoverer Viewer). The Discoverer Services tier relies on stored preference settings to specify the default Discoverer behavior.

Note: In a multiple machine environment with different Discoverer Session components running on different machines, Discoverer uses a single Preferences component on one machine. For more information about designating a single Preferences component, see Section 7.6, "About the Discoverer Preferences component in a multiple machine environment").

1.9 About the Discoverer database tier

The database tier of the Discoverer architecture contains data and metadata.

Figure 1–9 Discoverer database tier



The Discoverer database tier consists of:

- the Discoverer workbooks used to store reports and charts
- the End User Layer (EUL) that provides an easy-to-understand view of the data
- the business intelligence data that users want to analyze
- the Active Catalog, which is set of relational views that expose the standard form metadata stored in analytic workspaces, so that it can be accessed by SQL.
- the Analytic Workspaces, which are multidimensional schemas that are stored in a relational table.

You use Discoverer Administrator to create and maintain the EUL. For more information, see the *Oracle Business Intelligence Discoverer Administration Guide*.

Notes

- Before users can use Discoverer to analyze relational data, the database **must** contain a Discoverer End User Layer (EUL) Version 5.1.x. The Discoverer manager must have created or upgraded the EUL with OracleBI Discoverer Administrator.
- Before users can use Discoverer to analyze multidimensional data, you must install the Discoverer Catalog (for more information, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP").

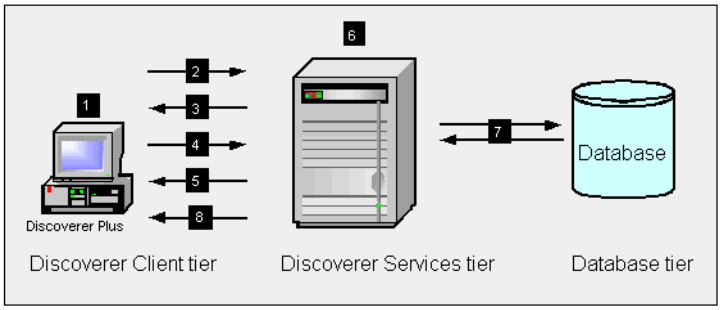
1.10 How does OracleBI Discoverer work?

This section provides information about how Discoverer Plus and Discoverer Viewer work.

1.10.1 How does Discoverer Plus Relational work?

The section explains how Discoverer Plus Relational interacts with the Discoverer Services tier and the database.

Figure 1–10 The Discoverer Plus Relational process

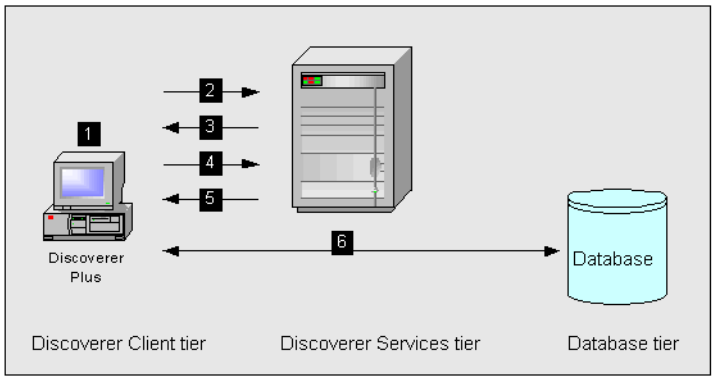


1. The user launches a Web browser on a client computer and types the URL of the Discoverer Plus servlet.
2. The Web browser accesses the Discoverer Plus servlet on the Discoverer Services tier, which forwards the request to the Discoverer servlet.
3. The Discoverer servlet retrieves the Discoverer Connections page and returns this to the Discoverer Plus servlet, which in turn returns the page to the client.
4. The user logs in (by connecting directly or using a Discoverer connection).
5. The Discoverer Plus Relational applet is transmitted to the client computer (if it is not present already).
6. Meanwhile, the Discoverer servlet starts a Discoverer session and establishes a connection with the session.
7. The Discoverer session requests and receives data from the database.
8. The Discoverer session transmits data to the Discoverer servlet, which forwards it to the Discoverer Plus servlet which in turn forwards it to the client machine.

1.10.2 How does Discoverer Plus OLAP work?

The section explains how Discoverer Plus OLAP interacts with the Discoverer Services tier and the database.

Figure 1–11 The Discoverer Plus OLAP process



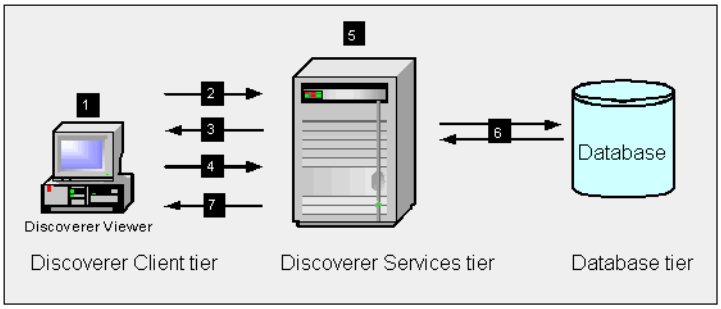
1. The user launches a Web browser on a client computer and types the URL of the Discoverer Plus servlet.

2. The Web browser accesses the Discoverer Plus servlet on the Discoverer Services tier, which forwards the request to the Discoverer servlet.
3. The Discoverer servlet retrieves the Discoverer Connections page and returns this to the Discoverer Plus servlet, which in turn returns the page to the client.
4. The user logs in (by connecting directly or using a Discoverer connection).
5. The Discoverer Plus OLAP applet is transmitted to the client computer (if it is not present already).
6. The Discoverer Plus OLAP connects directly to the database.

1.10.3 How does Discoverer Viewer work?

The section explains how Discoverer Viewer interacts with the Discoverer Services tier and the database.

Figure 1–12 The Discoverer Viewer Process



1. The user launches a Web browser on a client computer and types the URL of the Discoverer servlet.
2. The Web browser accesses the Discoverer servlet on the Discoverer Services tier.
3. The Discoverer servlet retrieves the Discoverer Connections page and returns this to the client.
4. The user logs in (by connecting directly or using a Discoverer connection).
5. Meanwhile, the Discoverer servlet starts a Discoverer session and establishes the connection with the session.
6. The Discoverer session requests and receives data from the database.
7. The Discoverer session transmits data to the Discoverer servlet, which generates an HTML page and forwards it to the client machine.

2

About Oracle Business Intelligence installations and OracleAS Infrastructures

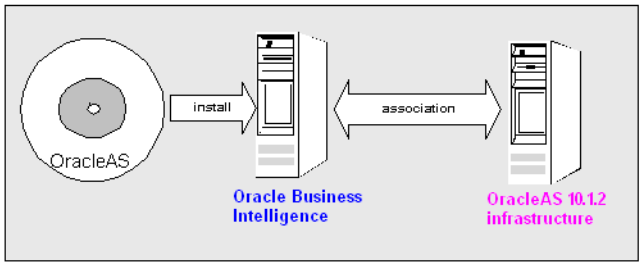
This chapter explains how Oracle Business Intelligence works with an OracleAS Infrastructure, and contains the following topics:

- Section 2.1, "About installing Oracle Business Intelligence"
- Section 2.2, "How to associate an OracleBI installation with an OracleAS Infrastructure"
- Section 2.3, "How to upgrade a 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2 and Oracle Portal 10.1.2"

2.1 About installing Oracle Business Intelligence

You can install Oracle Business Intelligence in three ways:

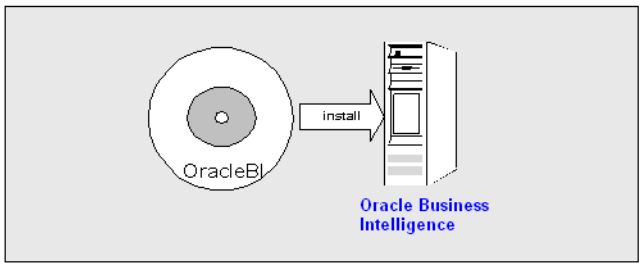
- as a Business Intelligence and Forms type installation (i.e. installed from an Oracle Application Server CD)



  A Business Intelligence and Forms type installation is associated with an OracleAS Infrastructure 10.1.2 automatically during installation. The OracleAS Infrastructure might be on the same machine as the Business Intelligence and Forms type installation or on a different machine.

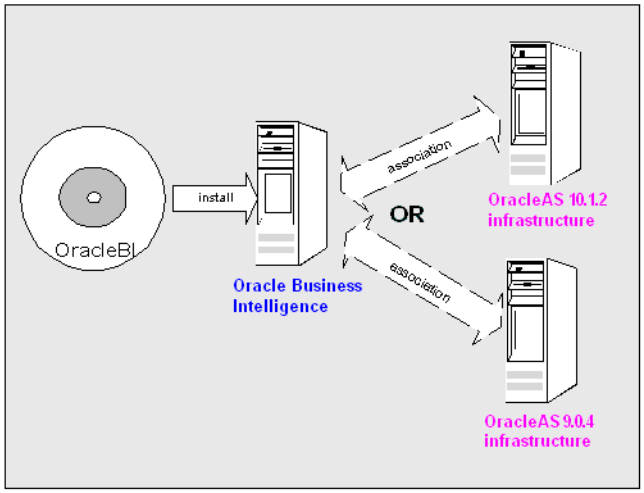
  For more information about components available in a Business Intelligence and Forms type installation, see Section 2.1.1, "About Business Intelligence and Forms installations and OracleBI standalone installations associated with an OracleAS Infrastructure".

- as an OracleBI standalone installation (i.e. installed from an Oracle Business Intelligence standalone CD)



An OracleBI standalone installation is not associated with an OracleAS Infrastructure, and therefore has a limited number of components available. For more information about components available in an OracleBI standalone installation, see Section 2.1.2, "About OracleBI standalone installations".

- as an Oracle BI standalone installation associated with an OracleAS Infrastructure (i.e. installed from an Oracle Business Intelligence standalone CD and associated manually with an OracleAS Infrastructure 9.0.4 or 10.1.2)



The OracleAS Infrastructure might be on the same machine as the Oracle BI standalone installation or on a different machine. For more information about components available in an OracleBI standalone installation associated with an OracleAS Infrastructure, see Section 2.1.1, "About Business Intelligence and Forms installations and OracleBI standalone installations associated with an OracleAS Infrastructure".

Notes

- Unless stated otherwise, the instructions in this guide assume that you have a Business Intelligence and Forms type installation or a BI standalone installation associated with an OracleAS Infrastructure.
- An Oracle Application Server installation can be on the same machine as an Oracle Business Intelligence installation, or on a different machine.

2.1.1 About Business Intelligence and Forms installations and OracleBI standalone installations associated with an OracleAS Infrastructure

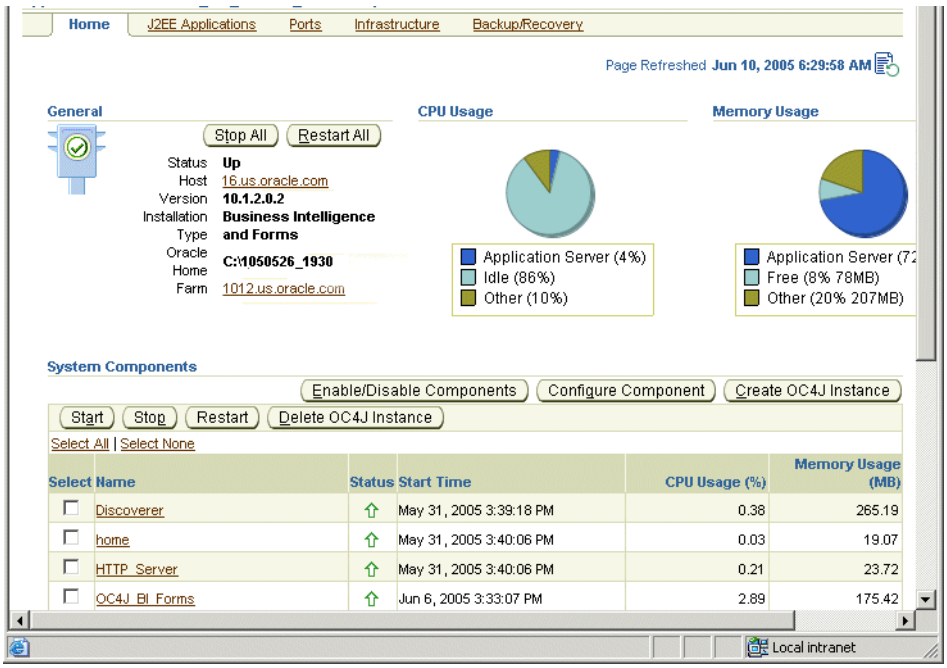
In a Business Intelligence and Forms type installation or a BI standalone installation associated with an OracleAS Infrastructure, the following components are available:

- Discoverer Plus Relational and Discoverer Plus OLAP
- Discoverer Viewer
- Discoverer Portlet Provider (via Oracle Portal)
- OC4J
- Oracle HTTP Server
- OPMN
- Oracle Application Server Control
- OracleAS Web Cache
- OracleAS Single Sign-On
- Discoverer Connections management page
- Private and public OracleBI Discoverer connections
- SSL functionality in OracleBI Discoverer
- Oracle Identity Management

End users can use the Discoverer connections page to start Discoverer and manage login details. For more details about Discoverer connections, see Chapter 4, "Managing OracleBI Discoverer connections".

After installation, Discoverer is listed in the System Components list on the home page in Oracle Application Server Control.

Figure 2–1 Application Server Control home page for an Oracle Business Intelligence installation



For more information about manually associating an OracleBI standalone installation with an OracleAS Infrastructure, see Section 2.2, "How to associate an OracleBI installation with an OracleAS Infrastructure".

For more information about how to display Application Server Control, see Section 5.1.2, "How to start Application Server Control and display the System Components page". For information about how to display components installed from the OracleAS CD, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page".

2.1.2 About OracleBI standalone installations

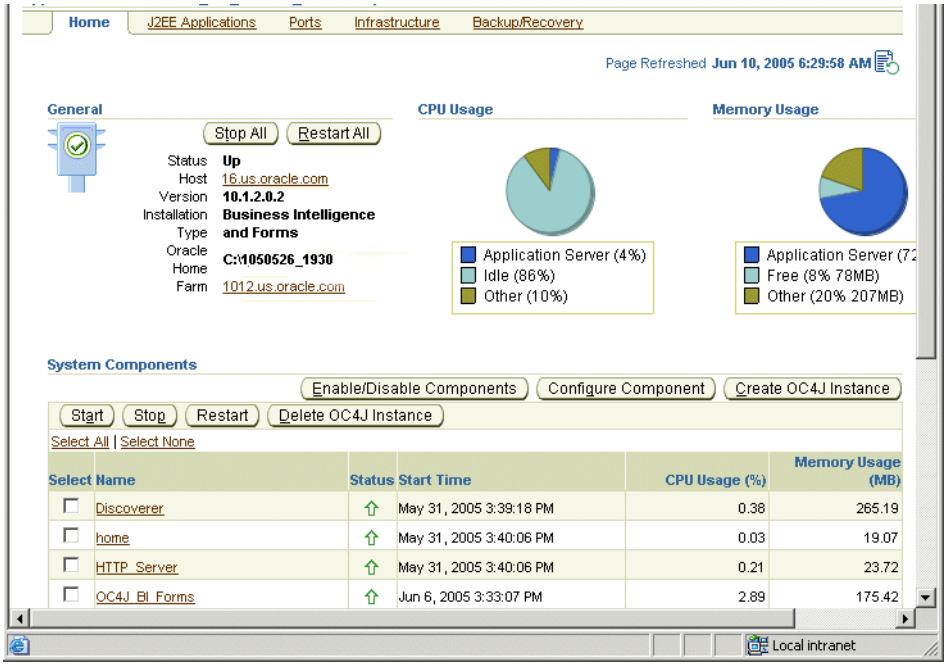
An Oracle BI standalone installation contains the following components:

- Discoverer Plus Relational and Discoverer Plus OLAP
- Discoverer Viewer
- Discoverer Portlet Provider (installed but not operational until the Discoverer installation is associated with an OracleAS Infrastructure)
- OC4J
- Oracle HTTP Server
- OPMN
- Oracle Application Server Control
- OracleAS Web Cache

Note: End users start Discoverer using a direct login page. Discoverer connections and OracleAS Single Sign-On are not available unless the OracleBI standalone installation is associated with an OracleAS Infrastructure.

After installation, Discoverer is listed in the System Components list on the home page in Oracle Application Server Control.

Figure 2–2 Application Server Control home page for a standalone Oracle Business Intelligence installation



For more information about how to display Application Server Control, see Section 5.1.2, "How to start Application Server Control and display the System Components page". For information about how to display components installed from the Oracle Business Intelligence standalone CD, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page".

2.2 How to associate an OracleBI installation with an OracleAS Infrastructure

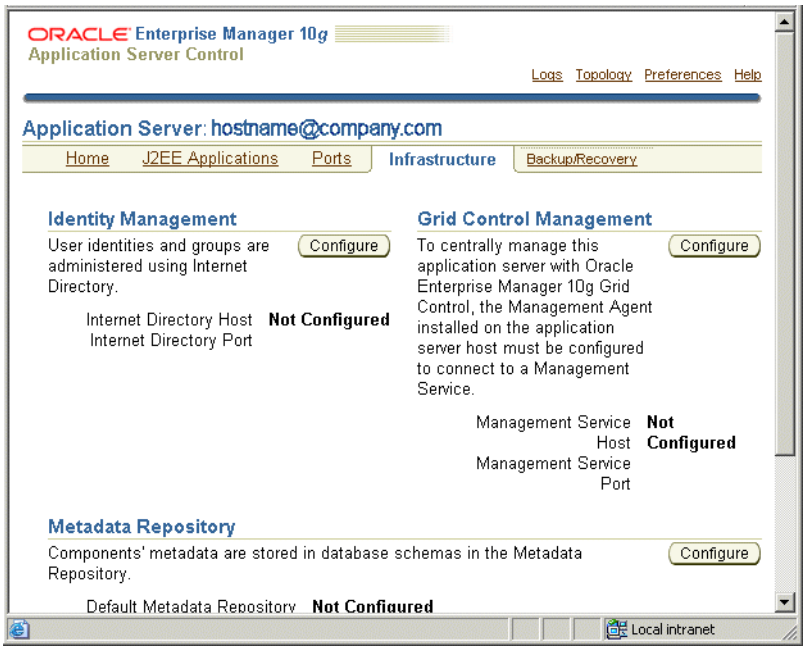
If you install an OracleBI standalone installation, you might want to associate it with an Oracle Application Server Infrastructure in order to deploy Discoverer with other OracleAS components (e.g. Oracle Portal, Oracle Single Sign-On).

You can associate OracleBI Discoverer with either an OracleAS 9.0.4 Infrastructure or an OracleAS 10.1.2 Infrastructure.

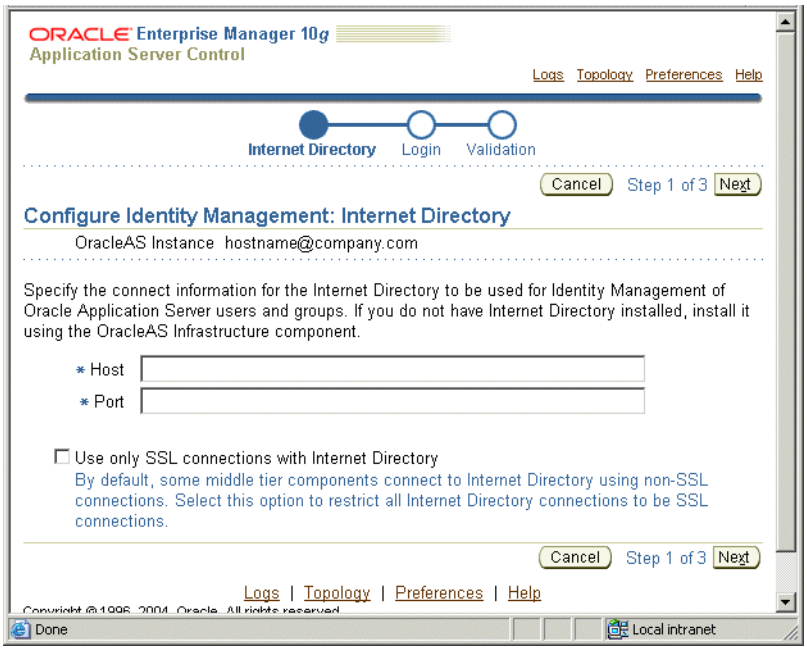
Note: If you want to associate an OracleBI standalone installation with a 9.0.4 Infrastructure, you must also upgrade the Discoverer part of the MR to deploy Discoverer Portlet Provider (for more information, see Section 2.3, "How to upgrade a 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2 and Oracle Portal 10.1.2").

To associate an OracleBI standalone installation with an OracleAS Infrastructure:

1. Start a Web browser and enter the Application Server Control URL containing the fully qualified host name and domain of the OracleBI installation that you want to configure (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. Display the Infrastructure tab.



3. In the Identity Management area, do one of the following:
   - to associate the OracleBI installation, click Configure to display the Configure Identity Management: Internet Directory page
   - to reassociate the OracleBI installation, click Change to display the Change Identity Management: Internet Directory page



4. Use the **Host** field and the **Port** field to enter the host name (e.g. infra.mycompany.com) and port number (e.g. 389) of the Oracle Internet Directory component on the OracleAS Infrastructure machine.

   Hint: To find out the host name and port number values to specify, start Oracle Application Server Control on the OracleAS Infrastructure machine, display the

Infrastructure tab, and note down the values of the **Internet Directory Host** field and the **Internet Directory Port** field.

5. Click Next to display the Configure Identity Management: Login page.
6. Use the **User Name** field and the **Password** fields to enter the administration user name and password for the Oracle Internet Directory component on the Infrastructure machine.

   Hint: Prefix the user name value with cn= (e.g. cn=orcladmin).
7. Click Next to display the Configure Identity Management: Validation page.
8. Click Finish.

   Having configured Identity Management, you now configure the Metadata Repository.
9. In the Metadata Repository area, click Configure to display the Configure Repository: Internet Directory page.
10. Follow the steps in the Configure/Change Repository: Internet Directory wizard, then click Finish.

The OracleBI standalone installation is now associated with an OracleAS Infrastructure. You can now deploy Discoverer with other OracleAS components (i.e. Oracle Portal, Oracle Single Sign-On) and use Discoverer connections and Discoverer Portlet Provider. For more information about Oracle Applications components available, see Section 2.1, "About installing Oracle Business Intelligence".

2.3 How to upgrade a 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2 and Oracle Portal 10.1.2

OracleBI Discoverer Portlet Provider 10.1.2 can be used with either OracleAS Portal 10.1.2 or OracleAS Portal 9.0.4. For information on using OracleBI Discoverer Portlet Provider with OracleAS Portal 10.1.2, see Chapter 11, "Using OracleBI Discoverer with OracleAS Portal".

This section provides instructions on how to use OracleBI Discoverer Portlet Provider 10.1.2 with OracleAS Portal 9.0.4.

If you want to use OracleBI Discoverer Portlet Provider 10.1.2 with OracleAS Portal 9.0.4, you must upgrade only the OracleBI Discoverer part of the 9.0.4 OracleAS Metadata Repository (MR) using the upgradeMR script as described in this section.

Using the upgradeMR script to upgrade just the OracleBI Discoverer part of the MR will allow OracleAS Portal to continue to work against the MR. In other words, you will not have to upgrade your OracleAS Portal instance to 10.1.2.

If you use the OracleAS Metadata Repository Upgrade Assistant 10.1.2 to update an OracleAS Metadata Repository from 9.0.4 to 10.1.2, you also upgrade the OracleAS Portal 9.0.4 schema to 10.1.2. As a result, OracleAS Portal 9.0.4. will no longer work against the MR. Do not use the OracleAS Metadata Repository Upgrade Assistant 10.1.2 to upgrade the OracleAS Metadata Repository if you want to continue to use OracleAS Portal 9.0.4.

To use OracleBI Discoverer Portlet Provider 10.1.2 with OracleAS Portal 9.0.4:

1. Associate Oracle Business Intelligence with the Oracle Application Server Infrastructure that is associated with the OracleAS Portal that you want to use

For more information, Section 2.2, "How to associate an OracleBI installation with an OracleAS Infrastructure".

2. Upgrade the OracleBI Discoverer part of the OracleAS Metadata Repository (for more information, see Section 2.3.1, "How to upgrade just the OracleBI Discoverer part of a Metadata Repository").
3. Do one of the following to register OracleBI Discoverer Portlet Provider 10.1.2 with OracleAS Portal 9.0.4:
   - If you have an existing OracleBI Discoverer Portlet Provider 9.0.4 registered with OracleAS Portal, then change the registration of the OracleBI Discoverer Portlet Provider to use the URL of the OracleBI Discoverer Portlet Provider 10.1.2.

     You need to change the registration of OracleBI Discoverer Portlet Provider to OracleBI Discoverer Portlet Provider 10.1.2 because the OracleBI Discoverer Portlet Provider 9.0.4 will no longer work once the Discoverer part of the MR is upgraded to 10.1.2.
   - If you do not have an existing OracleBI Discoverer Portlet Provider registered with OracleAS Portal, register OracleBI Discoverer Portlet Provider 10.1.2 with OracleAS Portal.

   For more information about registering Discoverer Portlet Provider, see Section 11.3, "How to register Discoverer Portlet Provider with OracleAS Portal".

Notes

- If you use OracleBI Discoverer Portlet Provider 10.1.2 with OracleAS Portal 9.0.4, then note that:
  - The color picker is not available. As a result you can only create gauges with the default colors.
  - The date picker is not available. As a result, when you specify refresh schedules for portlets using the Set Refresh Options page, you must enter the date as text in the 'First Refresh Date' field (e.g. 25-JAN-2005).

2.3.1 How to upgrade just the OracleBI Discoverer part of a Metadata Repository

You upgrade just the OracleBI Discoverer part of the OracleAS Metadata Repository 9.0.4 to work with OracleBI Discoverer Portlet Provider 10.1.2 using the upgradeMR script.

To upgrade an OracleAS Metadata Repository 9.0.4 to work with OracleBI Discoverer Portlet Provider 10.1.2, complete the following steps:

1. Before running the script, ensure that the ORACLE_HOME environment variable is set to the OracleBI Discoverer home directory.
2. On the Oracle Business Intelligence machine, open a command prompt and run the upgradeMR script.

   For more information about the location of configuration files, see Section A.1, "List of Discoverer file locations".

   For example, on a UNIX machine, enter the following command:

   ```
   upgradeMR.sh
   ```

   You are prompted to confirm that you want to upgrade the OracleBI Discoverer schema in the OracleAS Metadata Repository to 10.1.2.

3. Type `y` in response to the prompt.

   You are prompted to enter a user name and password.

4. Enter the user name and password of the SYSTEM user on the database that has the OracleAS Metadata Repository.

Output from the script is displayed on the console and is also logged in the MRUpgrade.log file in the util directory. For example, on Solaris the log file is located in:

`ORACLE_HOME/discoverer/util/MRUpgrade.log`

Note: Once you upgrade the OracleBI Discoverer part of the OracleAS Metadata Repository, you will be able to use only OracleBI Discoverer Portlet Provider 10.1.2. You will no longer be able to use OracleBI Discoverer Portlet Provider 9.0.4 with this OracleAS Portal and OracleAS Infrastructure.

3

Starting OracleBI Discoverer

Note: This chapter only applies to Discoverer Plus and Discoverer Viewer. For more information about configuring Discoverer Plus OLAP, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".

This chapter explains how to start OracleBI Discoverer on a client browser machine in order to install and configure any required plug-ins (e.g. a Java runtime environment) or security certificates, and contains the following topics:

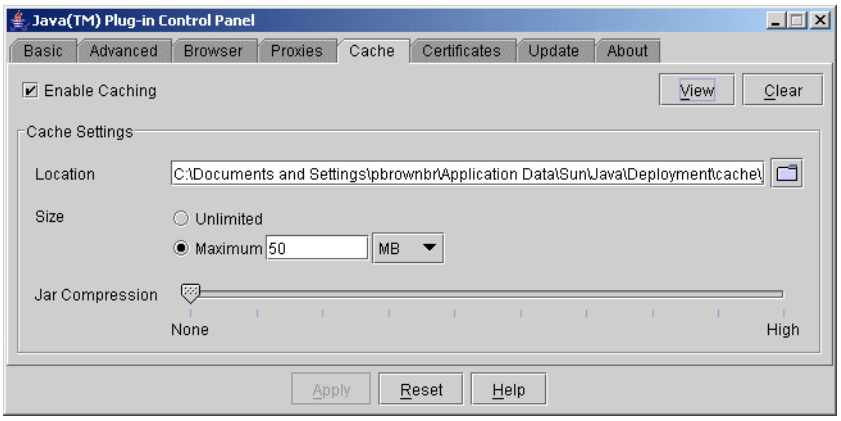
Notes

- The instructions in this chapter assume that the Discoverer installation is associated with an OracleAS Infrastructure. If the Discoverer installation is not associated with an OracleAS Infrastructure, end users will not see the Discoverer connections page, and must enter login details directly using the Connect to OracleBI Discoverer - Connect Directly page.
- Before users can use Discoverer to analyze relational data, the database **must** contain a Discoverer EUL Version 5.1.x.
- You can use the checkdiscoverer utility to verify a Discoverer configuration and report on failures or anomalies (for more information about the checkdiscoverer utility, see Section D.2.2, "What is the checkdiscoverer utility?").

- In some circumstances you might want to remove the Discoverer Plus applet from a client machine. For example, to provide a clean environment in which to run Discoverer Plus. To remove the Discoverer Plus applet from a client machine, do the following:

  a. Display the JVM control panel (e.g. on a Windows machine, display the Control Panel, and double-click on the Java Plug-in icon).

  b. Display the Cache tab.



  c. Click Clear.

  Alternatively, manually remove all files from the Oracle Jar Cache directory. For example, on Windows, remove all files from the C:\Documents and Settings\<*Windows user name*>\Oracle Jar Cache directory.

  You might also need to clear the browser's temporary files (e.g. in Internet Explorer, choose Tools | Internet Options and click Delete Files).

- In some circumstances you might want to remove the Java runtime environment plug-in from a client machine. To do this, remove all versions of the Java 2 Runtime Environment SE and Oracle JInititator from the client machine. For example, on Windows, display the Control Panel, then choose Add/Remove Programs.

- You can upgrade the Java Plug-in on a browser machine without affecting the certified Java Plug-in version installed with Discoverer. For example, when you log in to Windows you might see a Sun Java Plug-in pop-up that informs you that a new version of the Java Plug-in is available for download by clicking Yes. If you click Yes to download and install the new version, Discoverer continues to use the Java Plug-in version installed when you first started Discoverer on that machine.

3.1 General information about starting OracleBI Discoverer

To start Discoverer Viewer, you just need an Internet browser, as follows:

- To start Discoverer Viewer over HTTP, start an Internet browser and enter the Discoverer Viewer HTTP URL (e.g. http://<*host.domain*>:<*HTTP port*>/discoverer/viewer).

  For more information, see Section 3.11, "How to start Discoverer Viewer over HTTP".

- To start Discoverer Viewer over HTTPS, start an Internet browser and enter the Discoverer Viewer HTTPS URL (e.g. https://<*host.domain*>:<*HTTPS port*>/discoverer/viewer).

For more information, see Section 3.5, "About running Discoverer over HTTPS".

Depending on what software you have installed on your machine, you might also need the following:

- If the client browser machine does not have a JVM installed, you need to install a JVM and initialize the Discoverer Plus applet for that machine. For more information, see Section 3.6, "About running Discoverer Plus over HTTP for the first time on a client machine".
- To start Discoverer Plus over HTTPS, you must have installed a security certificate from a Certificate Authority. For more information, see Section 3.5, "About running Discoverer over HTTPS".

Notes

- For information on finding out the default Discoverer port number, see Section 5.8, "How to list ports used by Oracle Application Server".

3.2 What are the supported Web browser versions for Discoverer?

For information about supported Web browser versions for Discoverer, see *Oracle Business Intelligence Installation Guide.*

When running Discoverer Viewer with Internet Explorer 5.0, note the following:

- There are known bugs in Internet Explorer 5.0 which can cause intermittent problems when posting information from Viewer form pages such as the parameter screen.
- Internet Explorer versions prior to 5.5 have a variety of compatibility issues with certain versions of Microsoft Excel. For this reason, customers who use Internet Explorer and the "Export to Excel" feature in Discoverer Plus and Viewer are strongly recommended to use Internet Explorer 5.5 or higher.

  Note: These problems are generic to Internet Explorer and Microsoft Excel and are not specific to their use with Oracle products.

3.3 About restricting how users can start Discoverer

In a secure Discoverer environment you want to enable only authorized end users to access Discoverer. For example, you might want to limit users to read-only access to Discoverer workbooks using Discoverer Plus.

Depending on your security requirements, you might do any of the following to provide a secure Discoverer environment:

- You might run Discoverer Plus in read-only mode for specified Discoverer end users by removing the Create/Edit Query privilege in OracleBI Discoverer Administrator (for more information, see *Oracle Business Intelligence Discoverer Administration Guide*).
- You might enable Oracle Advanced Security (formerly Advanced Security Option) encryption between the middle tier and the database.

For more information about other Discoverer security features, see Chapter 14, "Maintaining security with OracleBI Discoverer".

3.4 What are the memory requirements and privileges required to start Discoverer Plus and Discoverer Viewer?

To start OracleBI Discoverer Plus, you require the following on the Discoverer Plus client machine (i.e. the browser machine):

- administrative privileges on the client machine, because you need to be able to install a Java Virtual Machine
- at least 50 MB of Users Personal Profile Space for the Oracle Jar Cache
- a minimum of between 100 - 150 MB of available disk space to install a JVM

To start OracleBI Discoverer Viewer, you need only to be able to run a standard Web browser (e.g. Microsoft Internet Explorer) that has JavaScript and cookies enabled.

3.5 About running Discoverer over HTTPS

Before you can run Discoverer over HTTPS (i.e. in Secure Sockets Layer (SSL) mode), you must have installed a security certificate from a Certificate Authority (e.g. Verisign) on the Oracle HTTP server on the OracleAS instance. For more information about installing security certificates, see *Oracle Application Server Administrator's Guide* and *Oracle Application Server Security Guide*.

An OracleAS installation includes a dummy certificate on the OracleAS instance that you can use to confirm that HTTPS is deployed. You must install a valid security certificate to make sure that communication with the OracleAS instance is secure.

A security certificate confirms to the Discoverer client machine that the holder of the security certificate is who they say they are.

How to start Discoverer over HTTPS is different for Discoverer Viewer and Discoverer Plus, as follows:

- To run Discoverer Viewer over HTTPS, simply specify HTTPS on the Discoverer Viewer URL, and specify the HTTPS port number.

  For example:

  https://<*host.domain*>:<HTTPS port>/discoverer/viewer

  When the Security Alert dialog is displayed, click Yes to accept the security certificate issued by the certificate authority you are using. Discoverer Viewer then starts in HTTPS mode. For more information about starting Discoverer Viewer, see Section 3.11, "How to start Discoverer Viewer over HTTP".

- To run Discoverer Plus over HTTPS, you install the Web server's security certificate into the Java Virtual Machine (JVM) certificate store in all client machines that will run Discoverer Plus. For more information, see Section 3.5.1, "How to install a security certificate on a Discoverer Plus client machine".

  Note: To deploy Discoverer Plus over HTTPS, you must select the Secure Tunneling security protocol in Oracle Application Server Control (for more information, see Section 14.6.3.6, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol").

Notes

- When you install OracleAS, SSL is installed automatically, but it is not enabled by default. To deploy Discoverer using SSL, make sure that SSL is enabled (i.e. make sure that the start-mode parameter in opmn.xml is set to 'ssl-enabled' and the ssl_

enable setting is 'true'). For more information about enabling SSL, see *Oracle HTTP Server Administrator's Guide*.

3.5.1 How to install a security certificate on a Discoverer Plus client machine

You install a security certificate on a Discoverer client machine when you start Discoverer Plus for the first time over HTTPS (i.e. in Secure Sockets Layer (SSL) mode).

Hint: If you do not have a JVM installed on the client machine, before you try to start Discoverer for the first time in Secure Sockets Layer (SSL) mode, do one of the following:

- run Discoverer Plus in HTTP mode, which installs a JVM on the client machine for you (for more information, see Section 3.6, "About running Discoverer Plus over HTTP for the first time on a client machine")
- install a JVM on the client machine manually

To install a Discoverer Plus security certificate:

1. Start a Web browser and enter the Discoverer Plus HTTPS URL containing the fully qualified host name (including port number if required) used by your own OracleAS installation.

   For example:

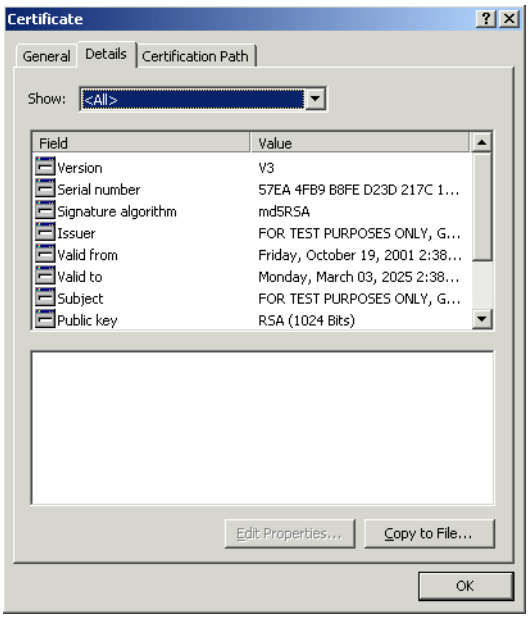
   https://<*host.domain*>:<*port*>/discoverer/plus

   where:

   - <*host.domain*> is the server name and domain on which the Oracle HTTP Server is installed
   - <*port*> is the HTTPS port number (default 4443) on which Discoverer is installed
   - /discoverer/plus is the URL command that starts Discoverer Plus

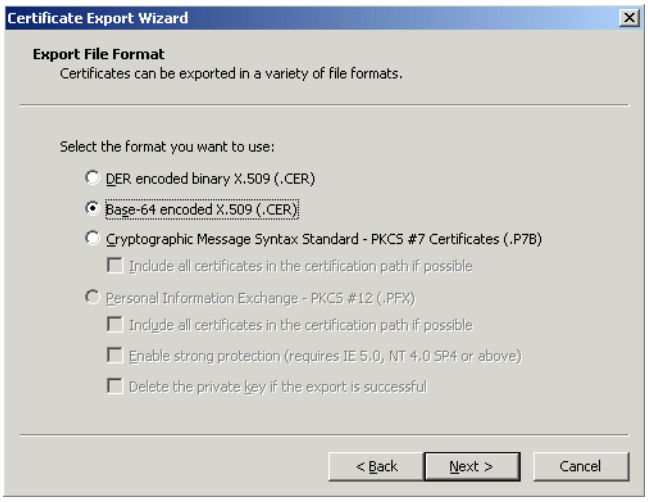
   The Security Alert dialog is displayed.

2. Click View Certificate to display the Certificate dialog.
3. Display the Details tab.

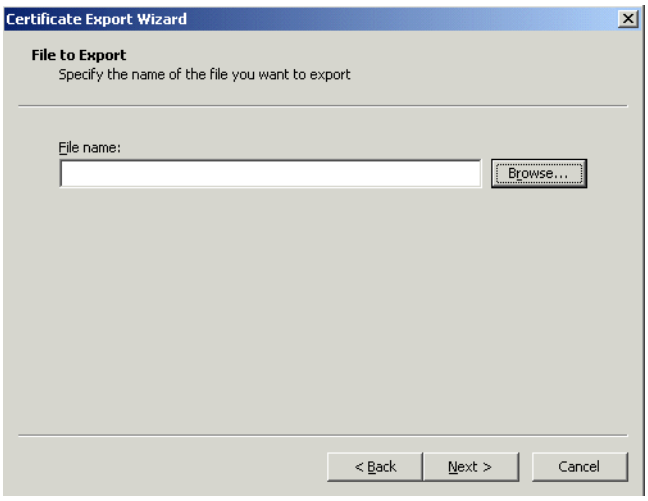


4. Click Copy to File to start the Certificate Export Wizard.

5. Click Next to display the Export File Format page in the Certificate Export Wizard.



6. Select the **Base-64 encoded X.509 (.CER)** radio button.
7. Click Next to display the File to Export page in the Certificate Export Wizard.



You now choose a temporary name and location for the exported certificate file.

8. Enter a file location and file name (with a '.cer' extension) for the exported certificate file in the **File name** field (e.g. c:\tmp\mycertificate.cer).
9. Click Next to display the final page of the Certificate Export Wizard dialog.

10. Click Finish to complete the certificate installation.

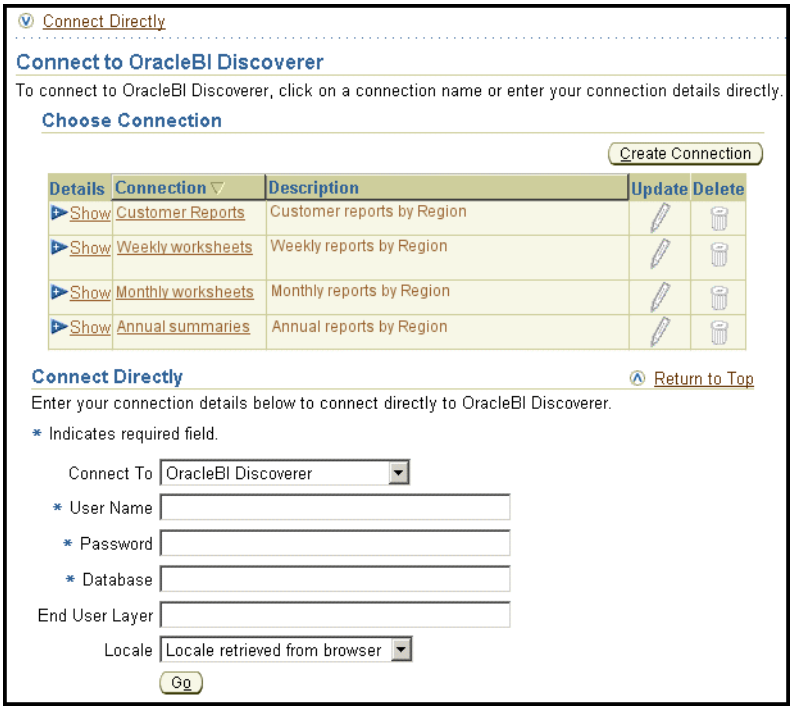
    A confirmation dialog is displayed.

11. Click OK to close the confirmation dialog and the Certificate Export Wizard and return to the Details tab of the Certificate dialog.
12. Click OK in the Details tab of the Certificate dialog to return to the Security Alert dialog.

13. Leave the Security Alert dialog displayed.

14. Import the security certificate file that you saved earlier into the certificate store of the JVM you are using, as follows:
    - if you are using JInititator, see Section 3.5.2, "How to import certificate details into the JInitiator certificate store"
    - if you are using Sun Java Plug-in, see Section 3.5.3, "How to import certificate details into the Java Plug-in certificate store"
15. (optional) Delete the certificate file that you saved earlier (e.g. c:\tmp\mycertificate.cer).
16. At the Security Alert dialog, click Yes to accept the security certificate and start Discoverer Plus.

    Discoverer Plus starts in HTTPS mode and displays the Connect to OracleBI Discoverer page.



Note: In HTTPS mode, Discoverer Plus displays a padlock symbol on the status bar of the browser, which indicates that the Web session is secure.

Notes

- For information about installing security certificates with a JVM other than Java Plug-in, consult the proprietary documentation for that JVM.
- If you install a new JVM when you start Discoverer Plus, you must reinstall the Web server's security certificate into the JVM certificate store on all client machines that run Discoverer Plus.

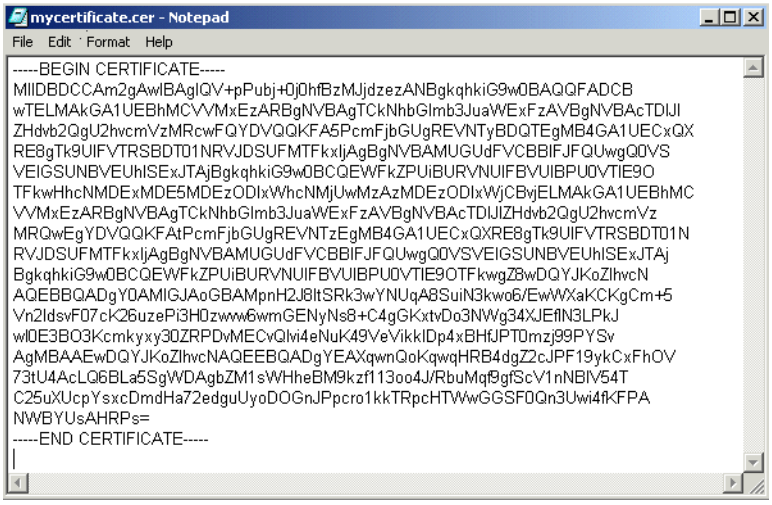
3.5.2 How to import certificate details into the JInitiator certificate store

When configuring Discoverer Plus to run over HTTPS using JInitiator, you import the certificate details into the JInitiator certificate store after you have used the Certificate Export Wizard to export a certificate file (for more information, see Section 3.5.1, "How to install a security certificate on a Discoverer Plus client machine").

To import certificate details into the JInitiator certificate store:

1. Open the certificate file that you saved in Section 3.5.1, "How to install a security certificate on a Discoverer Plus client machine" in a text editor (e.g. c:\tmp\mycertificate.cer).

   The screenshot below shows a certificate file called mycertificate.cer opened in a text editor.



   JInitiator's certificate store is contained in a file called certdb.txt.

2. Open the certdb.txt file in a separate text editor (for more information about the location of configuration files, see Section A.1, "List of Discoverer file locations").

3. Copy the entire contents (including the '-----BEGIN CERTIFICATE-----' and '-----END CERTIFICATE-----' text) of the certificate file (e.g. c:\tmp\mycertificate.cer) to the end of the certdb.txt file.

4. Save the certdb.txt file.

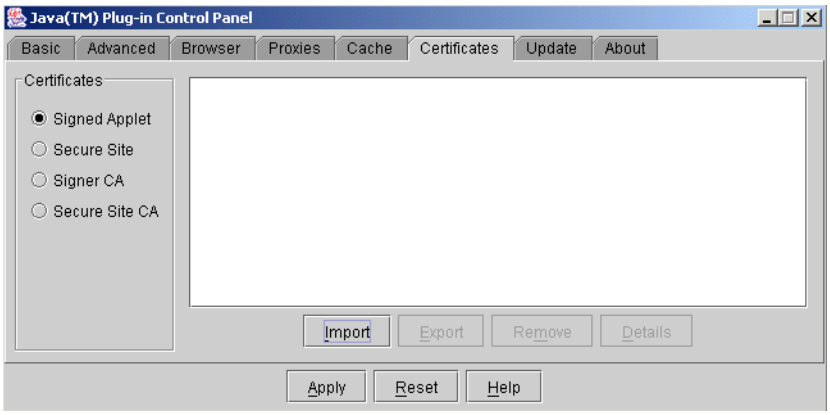
3.5.3 How to import certificate details into the Java Plug-in certificate store

When configuring Discoverer Plus to run over HTTPS using Java Plug-in, you import the certificate details into the Java Plug-in certificate store after you have used the Certificate Export Wizard to export a certificate file.

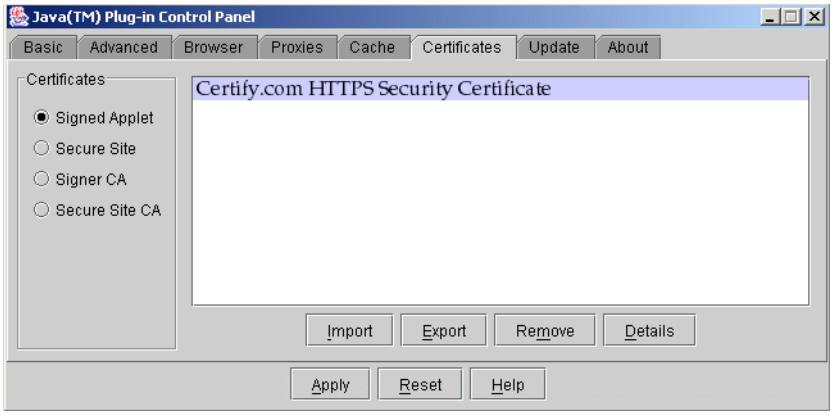
1. Display the Java Plug-in Control Panel.

   For example, on Windows choose Start | Settings | Control Panel to display the Windows Control Panel, then select the Java Plug-in icon.

2. Display the Certificates tab.



3. Select the **Signed Applet** radio button in the Certificates panel (if it is not selected already).
4. Click Import and import the certificate file that you saved in Section 3.5.1, "How to install a security certificate on a Discoverer Plus client machine" (e.g. c:\tmp\mycertificate.cer).



The security certificate is displayed in the list of certificates in the Java Plug-in certificate store.

5. Click Apply.

3.6 About running Discoverer Plus over HTTP for the first time on a client machine

When you start Discoverer Plus for the first time on a client machine, you perform a one-time setup process to install a Java Virtual Machine and initialize the Discoverer Plus software. This process is typically performed when:

- you want to test that Discoverer is working
- a Discoverer end user wants to start Discoverer Plus for the first time on a client machine

If you upgrade Discoverer, you might have to repeat the setup process. For example, you might install a new version of Discoverer Plus that requires a new version of the Java runtime environment.

OracleBI Discoverer installs either the Sun Java Plug-in (default) or the Oracle JInitiator Plug-in on client browser machines. For more information about changing

the Java plug-in that Discoverer uses, see Section 5.9.1, "How to specify a different Java Virtual Machine for Discoverer Plus".

The Discoverer Plus initialization procedure is different for different browsers. Refer to the appropriate task below:

- For Microsoft Internet Explorer on a Windows client, see Section 3.8, "How to start Discoverer Plus over HTTP in Microsoft Internet Explorer for the first time on a Windows client machine".
- For Netscape Navigator on a Windows client, see Section 3.9, "How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a Windows client machine".
- For Netscape Navigator on a UNIX client, see Section 3.10, "How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a UNIX client machine".
- For Safari on an Apple Mac client, Apple Mac OS X is the minimum required operating system. Apple Mac OS X machines are pre-installed with Java 1.4.2, which includes the Java runtime environment required by Discoverer Plus. Therefore, you can run Discoverer Plus without manually installing a Java runtime environment (for more information, see Section 3.7, "How to start Discoverer Plus").

  To check that a client browser machine has the required Java Plug-in, use the Apple Macintosh Software Update option. You should see Java 1.4.2 in the software list on the Software Update dialog (see screenshot below). If Java 1.4.2 is not installed, use the Automatic Update options to install the latest Java Plug-in version.

Figure 3–1 Software Update dialog in Apple Mac OS X

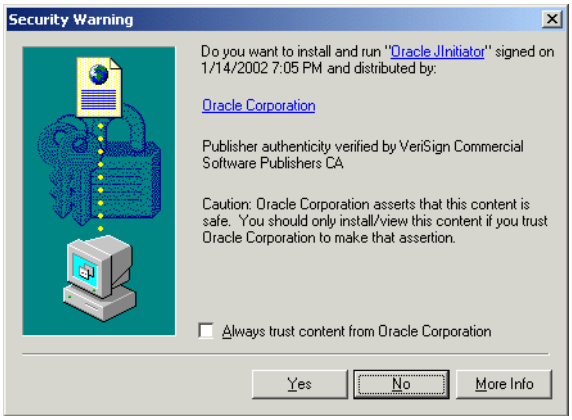
Note: If Discoverer Plus users use Apple Mac OS X client machines, you must specify the Sun Java Plug-in as the Java Virtual Machine on the Discoverer middle tier (for more information about choosing a JVM, see Section 5.9, "About running Discoverer Plus with different Java Virtual Machines").

Notes

- If Single Sign-On is enabled, you will first be asked to authenticate as a Single Sign-On user before a Discoverer connections page is displayed.
- If Single Sign-On is not enabled, Discoverer end users are asked to enter a database password when they select a private connection.

  Note: A Discoverer connection stores login information.
- To start Discoverer Plus in Microsoft Internet Explorer, you must have the Security level set no higher than 'Medium' or custom equivalent (i.e. using the Security dialog in Microsoft Internet Explorer).
- If a Security Warning dialog is displayed when you start Discoverer, click Yes to install and start the JVM. If you have previously configured the machine to always trust content from Oracle Corporation, this dialog is not displayed.

Figure 3–2 Security Warning dialog



  Note: Discoverer Viewer requires no additional software to be installed on the client machine.
- If the Discoverer initialization takes longer than the session timeout (e.g. you might be accessing Discoverer over a 56K dial-up connection), increase the Timeout value in the pref.txt file on the middle tier and apply the preferences. For more information, see Section 10.6, "List of Discoverer user preferences".

3.7 How to start Discoverer Plus

You start Discoverer Plus to enable you to manage and edit Discoverer worksheets.

To start Discoverer Plus:

1. Start a Web browser and enter the Discoverer Plus URL containing the fully qualified host name (including port number if required) used by your own OracleAS installation.

   For example:

   http://*<host.domain>*:*<port>*/discoverer/plus

   where:

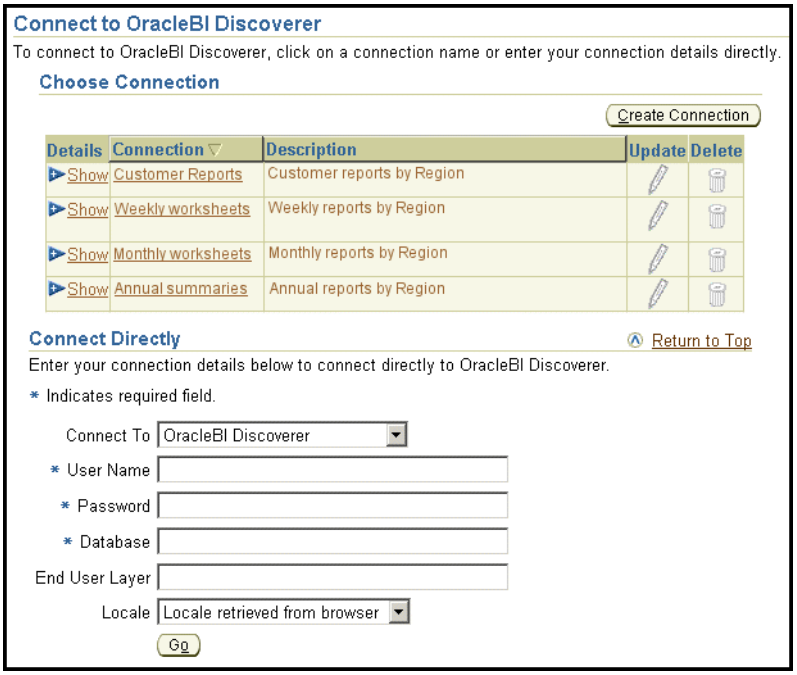
   - *<host.domain>* is the server name and domain on which the Oracle HTTP Server is installed
   - *<port>* is the port number (typically 7777) on which Discoverer is installed

For information on finding out the default Discoverer port number, see Section 5.8, "How to list ports used by Oracle Application Server".

- /discoverer/plus is the URL command that starts Discoverer Plus

The Connect to OracleBI Discoverer page is displayed.

Figure 3–3 Connect to OracleBI Discoverer page



Note: Connections are only displayed if the Oracle Business Intelligence installation is associated with an OracleAS Infrastructure. If Single Sign-On is enabled, you will first be asked to authenticate as a Single Sign-On user.

2. Do one of the following:

   - Select a connection in the **Connection** column.

     Hint: If no connections are displayed in the **Connection** column, you will have to create a new connection before continuing. For more information about creating private connections, see *Oracle Business Intelligence Discoverer Plus User's Guide*. You can also use public connections that have been created by the Discoverer manager (for more information, see Section 4.6, "How to create public connections").

   - Enter login details directly using the **Connect Directly** area, and click Go.

   Discoverer Plus starts (after first installing any required plug-ins).

3.8 How to start Discoverer Plus over HTTP in Microsoft Internet Explorer for the first time on a Windows client machine

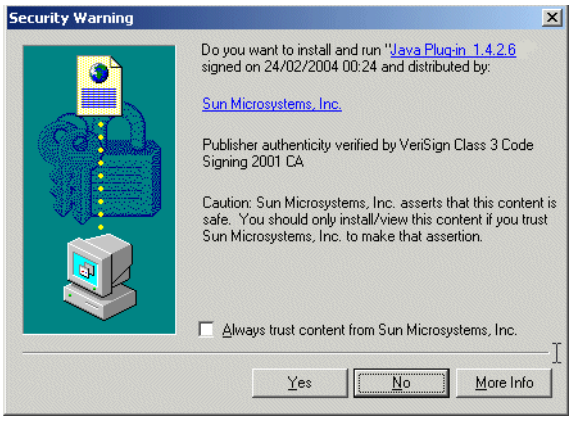
To start Discoverer Plus in Microsoft Internet Explorer for the first time on a Windows client machine:

1. Start Discoverer Plus (for more information, see Section 3.7, "How to start Discoverer Plus").

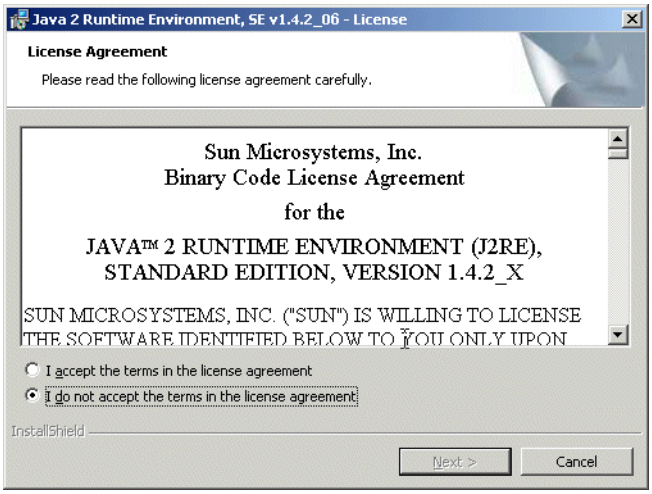
2. Depending on the software already installed on the client machine, you might have to download and install a Java Virtual Machine (JVM) (e.g. Java Plug-in). If you are not prompted to download and install a JVM, go straight to step 8.

   Hint: If the JVM installation process fails, close down extraneous processes on the client machine, then re-try.

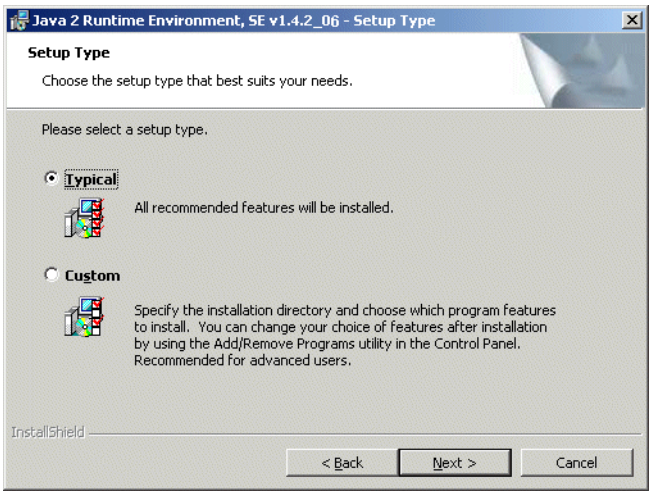
   If you have to download and install a JVM, the Security Warning dialog is displayed.



3. Click Yes to start the plug-in download and display the License Agreement page.

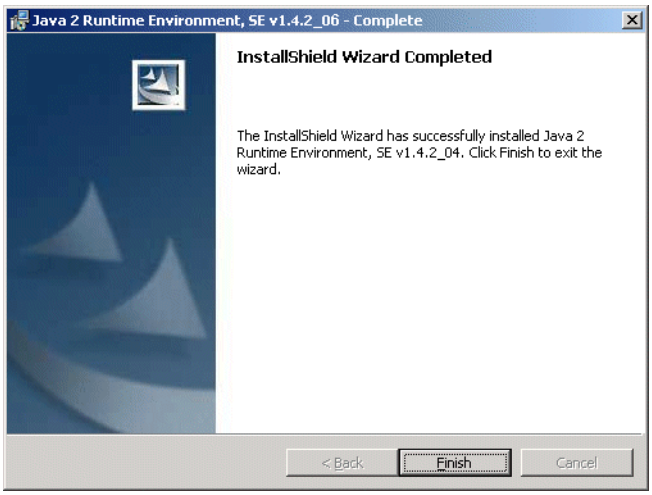


4. Select the **I accept the terms of the license agreement** radio button, then click Next to display the Java Runtime Environment - Setup Type dialog.



5. Select the **Typical** radio button and click Next to start the installation.

   When the installation is complete, the Java Runtime Environment - Complete page is displayed.



6. Click Finish to close the installation wizard.

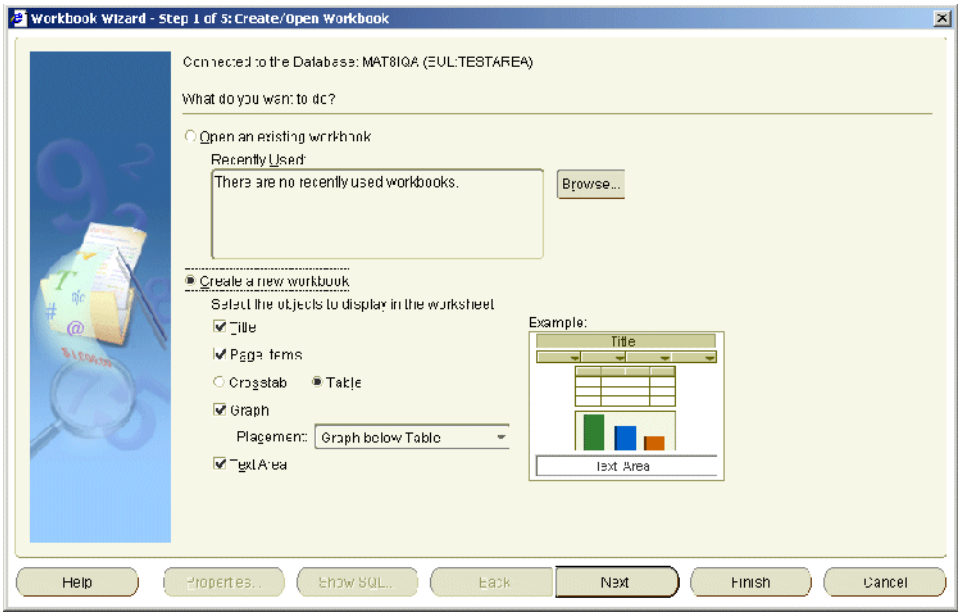
   The Security Warning dialog is displayed.

7. Click Yes to accept the security certificate and start Discoverer Plus.

Note: If you do not want to display the Warning - Security dialog every time a new Discoverer Plus applet is installed on the client machine, click Always.

The Workbook Wizard dialog is displayed.

8. Follow the instructions on the Workbook Wizard dialog.



You are now running Discoverer Plus.

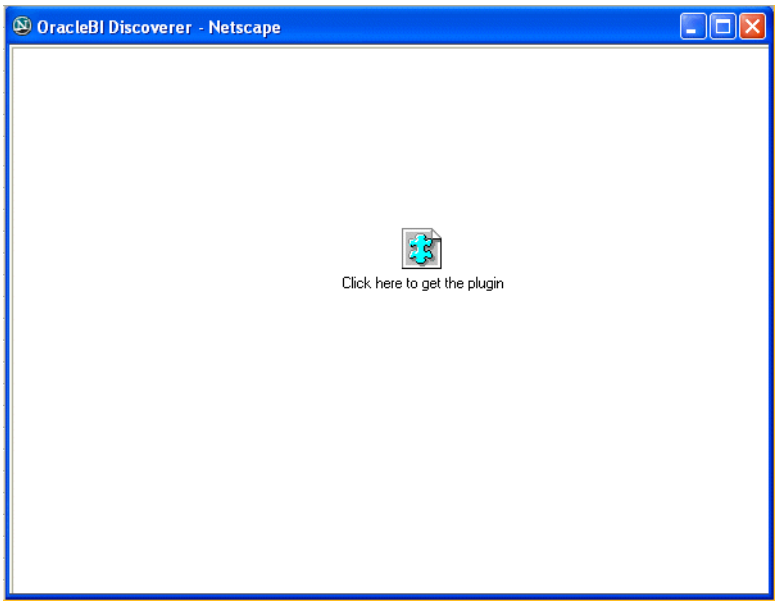
3.9 How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a Windows client machine

To start Discoverer Plus in Netscape Navigator for the first time on a Windows client machine:

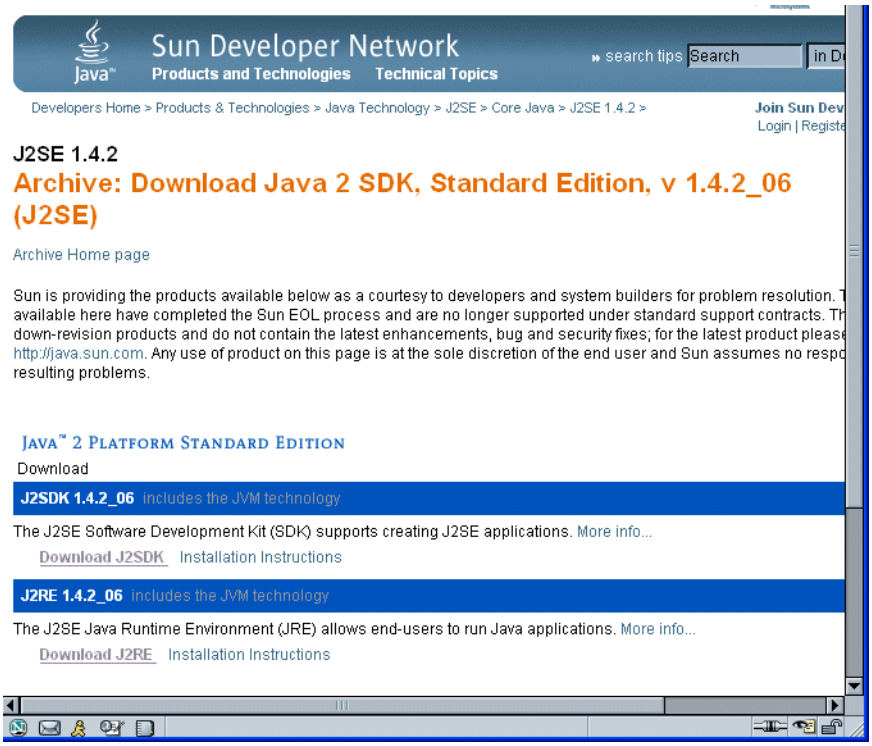
1. Start Discoverer Plus (for more information, see Section 3.7, "How to start Discoverer Plus").

   Depending on the software already installed on the client machine, you might have to download and install a Java Virtual Machine (JVM) (e.g. Java Plug-in). If you are not prompted to download and install a JVM, go straight to step 13.

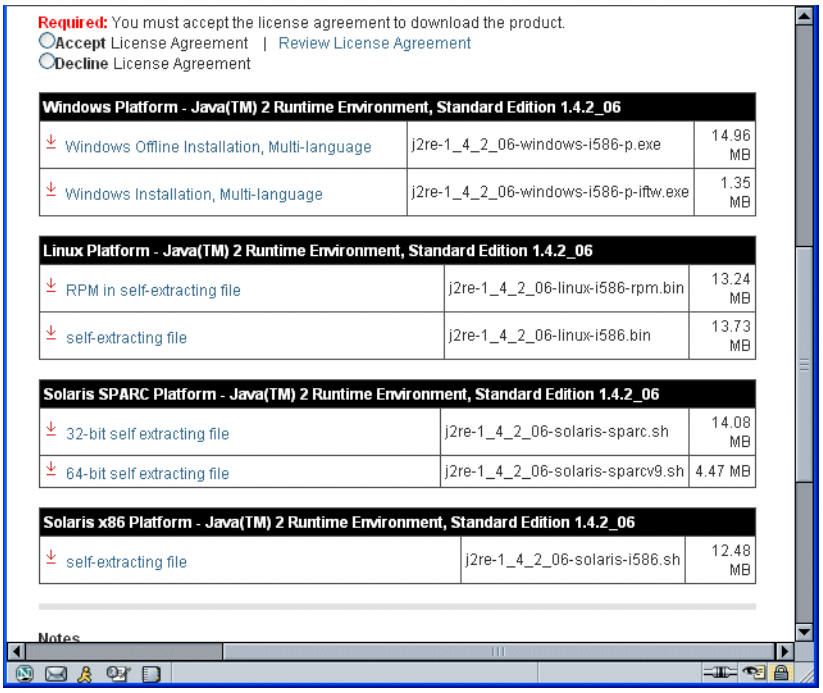
   If the client browser machine does not have a JVM installed and you need to install a JVM, Discoverer launches an empty applet browser window.



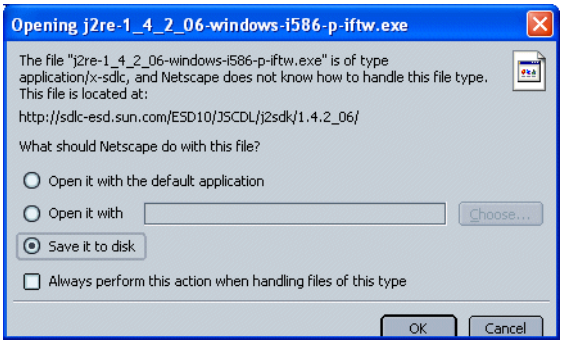
2. Click anywhere in the empty applet browser window to display the Sun Developer Network download page for JVMs in a separate browser window.



3. In the browser window containing the Sun Developer Network download page for JVMs, select the **Download J2RE** link to display the Download page.

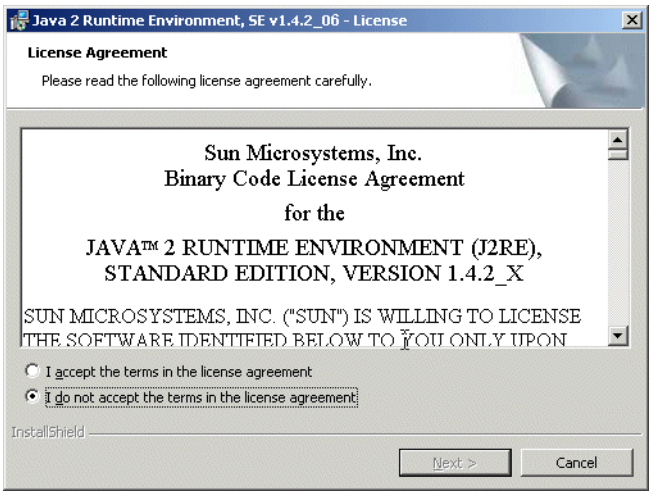


4. Select the **Accept License Agreement** radio button.
5. In the Windows Platform area, select the **Windows Installation, Multi-language** link to display the Opening <*JVM file*> dialog.

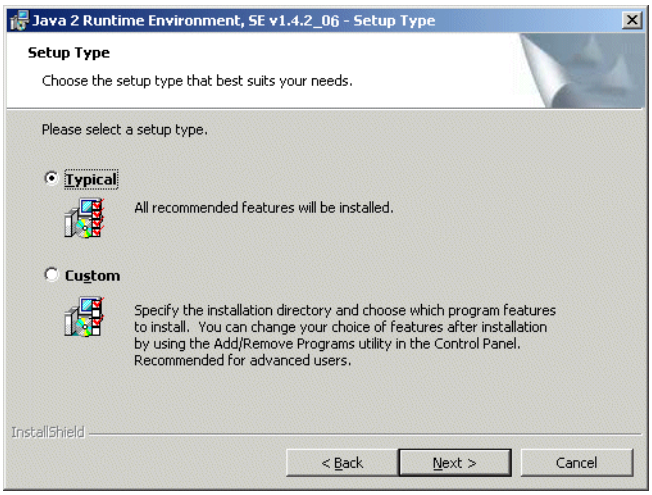


6. Select the **Save it to disk** radio button and click OK.
7. Navigate to a temporary directory on the client browser machine (e.g. d:\temp\) then click Save.

   When the file download is complete the Netscape Download Manager dialog is displayed, containing the status of the download.
8. Close the Netscape Download Manager dialog.
9. Using a Windows Explorer dialog, navigate to the temporary directory that you selected in step 6 and double click on the downloaded file (e.g. d:\temp\j2re-1_4_2-windows-i586-p-iftw.exe) to start the JVM installation wizard and display the License Agreement page.

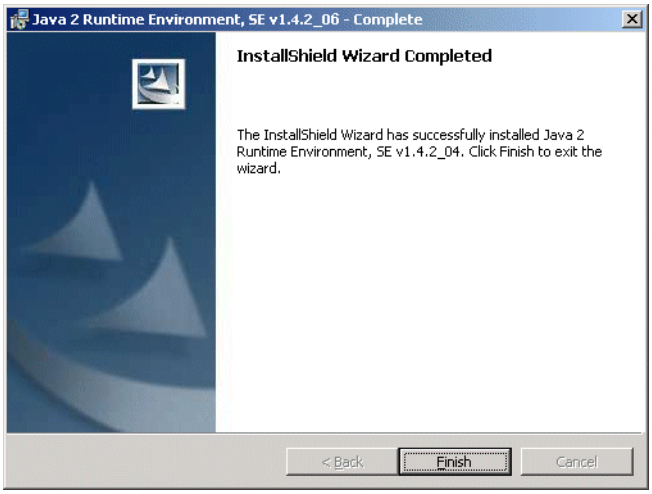


10. Select the **I accept the terms of the license agreement** check box, then click Next to display the Java Runtime Environment - Setup Type.

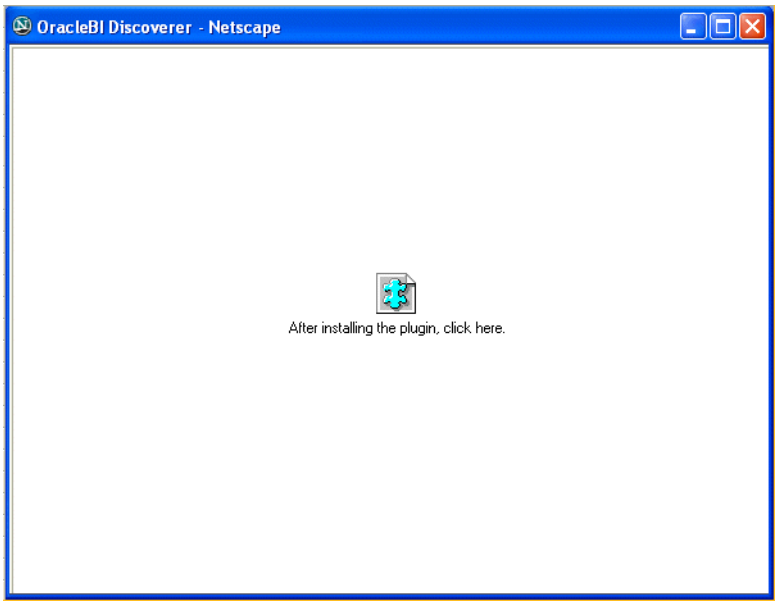


11. Select the **Typical** radio button and click Next to start the installation.

    When the installation is complete, the Java Runtime Environment - Complete page is displayed.

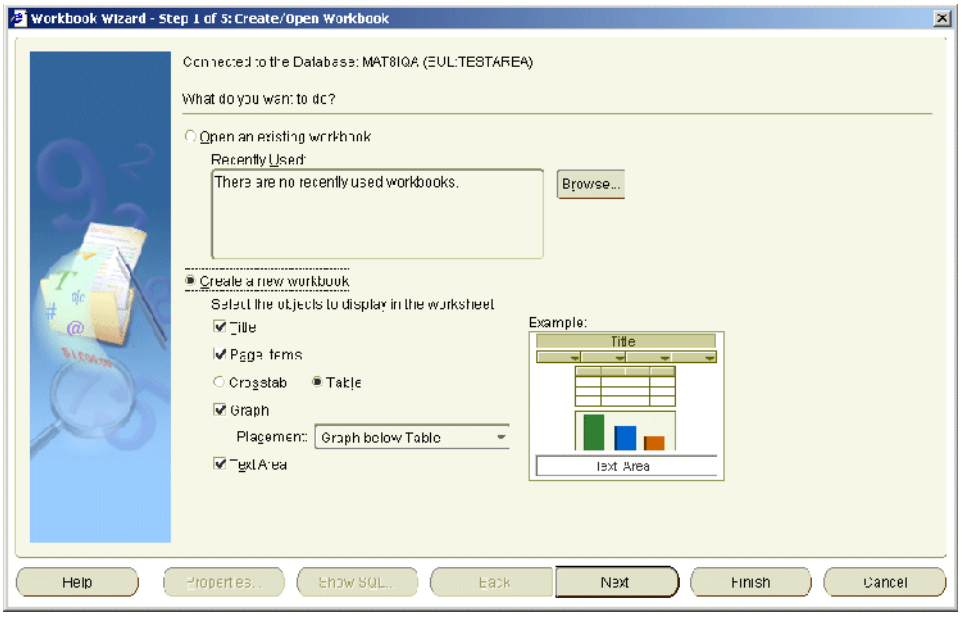


12. Click anywhere in the empty applet browser window to start Discoverer Plus.



When the Discoverer Plus applet is initialized and cached, the Workbook Wizard dialog is displayed.

13. Follow the instructions on the Workbook Wizard dialog.



You are now running Discoverer Plus.

3.10 How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a UNIX client machine

To start Discoverer Plus in Netscape Navigator for the first time on a UNIX client machine:

1. Install a JVM on the client browser machine, as follows:

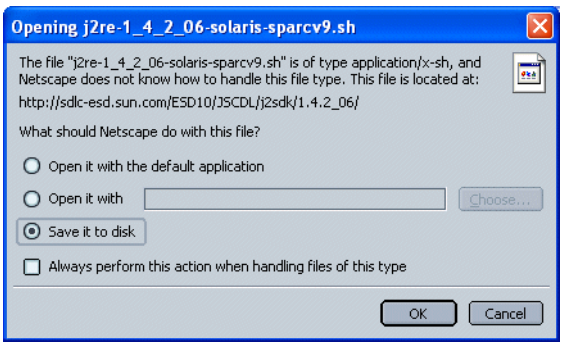
a. Start a Web browser and go to the following URL:

`http://java.sun.com/products/archive/j2se/1.4.2_06/index.html`

b. Select the **DOWNLOAD** link in the JRE column for the Download J2SE v 1.4.2_06 option for Windows/Linux/Solaris to display the Download page.

c. Select the **Accept License Agreement** radio button.

d. Select the appropriate Solaris or Linux link to display the Opening <*JVM file*> dialog.



For example, for a Solaris client browser machine, you might select the **64-bit self-extracting file (j2re-1_4_2_06-solaris-sparcv9.sh)** link.

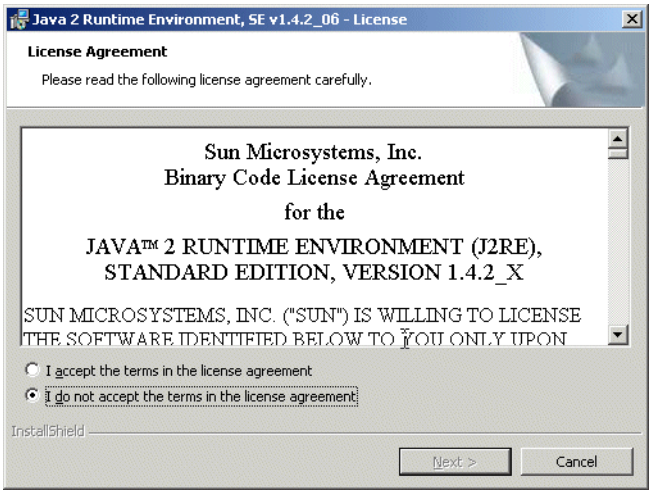
e. Select the **Save it to disk** radio button and click OK.

f. Navigate to a temporary directory on the client browser machine (e.g. tmp\) then click Save.

When the file download is complete the Netscape Download Manager dialog is displayed, containing the status of the download.

g. Close the Netscape Download Manager dialog.

h. Using a file manager tool, navigate to the temporary directory that you selected in step f and execute the downloaded file (e.g. tmp\j2re-1_4_2_06-solaris-sparcv9.sh) to start the JVM installation wizard and display the License Agreement page.



i. Follow the instructions in the JVM installation wizard to install the JVM on the client machine.

2. Start Discoverer Plus (for more information, see Section 3.7, "How to start Discoverer Plus").

3. Wait for the Discoverer Plus applet to initialize.

   While the Discoverer Plus applet initializes, the Starting product: Discoverer Plus page is displayed.

   The Discoverer Plus applet is initialized and cached, then the Workbook Wizard dialog is displayed.

   You are now running Discoverer Plus.

3.11 How to start Discoverer Viewer over HTTP

You might start Discoverer Viewer if you have installed OracleAS and want to test that Discoverer is working.

To start Discoverer Viewer over HTTP:

1. Start a Web browser and enter the Discoverer Viewer URL containing the fully qualified host name (including port number) used by your own OracleAS installation.

   For example:

   http://<*host.domain*>:<*port*>/discoverer/viewer

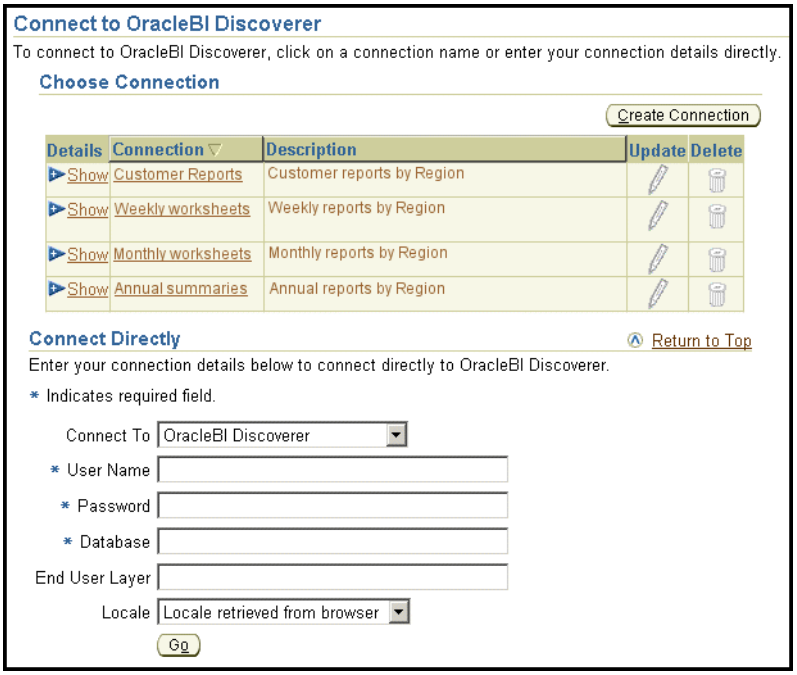
   where:

   - <*host.domain*> is the server name and domain on which the Oracle HTTP Server is installed
   - <*HTTP port*> is the port number (typically 7777) on which Discoverer is installed.

     For information on finding out the default Discoverer port number, see Section 5.8, "How to list ports used by Oracle Application Server".
   - /discoverer/viewer is the URL command that starts Discoverer Viewer

   The Connect to Discoverer Viewer page is displayed.

Figure 3–4 Connect to Discoverer Viewer page



Note: If Single Sign-On is enabled, you will first be asked to authenticate as a Single Sign-On user.

2. Do one of the following:

   - Select a connection in the **Connection** column.

     Hint: If no connections are displayed in the **Connection** column, you will have to create a new connection before continuing. For more information about creating private connections, see *Oracle Business Intelligence Discoverer Viewer User's Guide*. You can also use public connections that have been created by the Discoverer manager (for more information, see Section 4.6, "How to create public connections").

   - Enter login details directly using the **Connect Directly** area, and click Go.

   The Worksheet list page is displayed.

3. Select a worksheet in the **Name** column to display the workbook in Discoverer Viewer.

   You are now running Discoverer Viewer.

Notes

- To start Discoverer Viewer over HTTPS, enter the Discoverer Viewer HTTPS URL (e.g. https://*<host.domain>*:*<HTTPS port>*/discoverer/viewer). For more information about running Discoverer Viewer over HTTPS, see Section 3.5, "About running Discoverer over HTTPS".

4

Managing OracleBI Discoverer connections

Note: This chapter only applies if the Discoverer installation is associated with an OracleAS Infrastructure. For more information, see Section 2.1, "About installing Oracle Business Intelligence".

If Discoverer is not associated with an OracleAS Infrastructure, Discoverer connections are not available to end users. For more information about associating Discoverer with an Oracle Infrastructure install, see Chapter 2, "About Oracle Business Intelligence installations and OracleAS Infrastructures".

This chapter explains how to create and manage OracleBI Discoverer connections, and includes the following topics:

4.1 What is an OracleBI Discoverer connection?

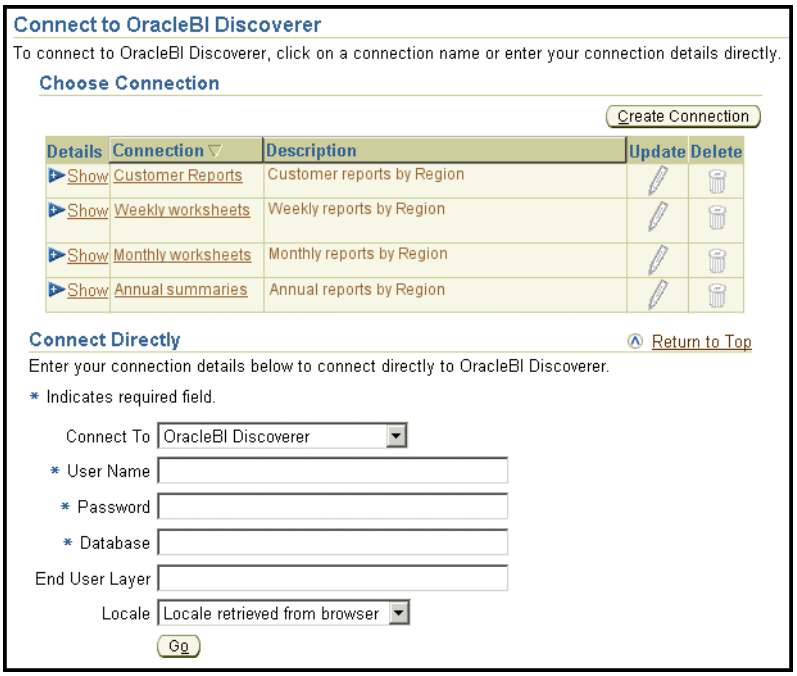
An OracleBI Discoverer connection is a stored set of database login details, comprising:

- a database user name - to identify the Discoverer end user
- a database password - to authenticate the Discoverer end user
- a database name - to specify the database containing the information that the Discoverer end user wants to analyze
- (optional) an Oracle Applications Responsibility - to specify a Discoverer end user's responsibility when using Discoverer with Oracle Applications
- (relational data source only) an EUL - to specify the End User Layer to be used
- a language - to specify the language that should be used in Discoverer

Discoverer connections enable Discoverer end users to start Discoverer without having to re-enter database login details each time they start Discoverer.

In the example below, a connection called Customer Reports has been created that contains login information to connect to the database containing the reports, without having to enter login details.

Figure 4–1 Connections page in OracleBI Discoverer Plus



Notes

- A connection is visible to both Discoverer Plus and Discoverer Viewer end users.
- If end users do not want to store login details in a connection, they can start Discoverer by entering login details directly using the **Connect Directly** area of the Discoverer connections page.

4.1.1 About Discoverer private connections and OracleAS Single Sign-On

If OracleAS Single Sign-On is enabled, Discoverer private connections work as follows:

- when Discoverer end users select a Discoverer private connection for the first time, they are prompted to enter their OracleAS Single Sign-On details (if they have not already been authenticated)
- once Discoverer end users have been authenticated by OracleAS Single Sign-On, they can select a Discoverer private connection without confirming the Discoverer password

For more information about OracleAS Single Sign-On, see Section 14.7.1, "Using Discoverer with OracleAS Single Sign-On".

4.2 What are the different types of Discoverer connection?

There are two types of Discoverer connection:

- a private connection - see Section 4.2.1, "About private connections"
- a public connection - see Section 4.2.2, "About public connections"

4.2.1 About private connections

Private connections are created and maintained by Discoverer end users.

Private connections have the following characteristics:

- A private connection is private to the Discoverer end user that created it.
- Discoverer end users create and maintain their own private connections.

  For more information about controlling what types of connection Discoverer end users can use, see Section 4.5, "About specifying whether Discoverer end users can create their own private connections".
- If Single Sign-On is enabled, Discoverer end users can use their private connections from any client machine. If Single Sign-On is not enabled, private connections are stored as cookies, and are accessible only on the machine and browser on which they were created. For more information about Single Sign-On, see Section 4.1.1, "About Discoverer private connections and OracleAS Single Sign-On".
- For more information about how to create private connections, see *Oracle Business Intelligence Discoverer Plus User's Guide*.

4.2.2 About public connections

Public connections are created and maintained by Discoverer middle tier managers.

Note: Public connections are not available to Discoverer Plus OLAP users.

For example, if you want to provide Discoverer end users with access to the Discoverer sample workbooks, you might create a public connection called 'Sample workbooks'.

Public connections have the following characteristics:

- A public connection is available to Discoverer Plus and Discoverer Viewer end users.

  Note: When you create a public (OLAP) connection (i.e. a public connection to a multidimensional data source) the public connection will only be available to Discoverer Viewer and Discoverer Portlet Provider users. Public OLAP connections are not available to Discoverer Plus OLAP users.
- Public connections enable Discoverer Plus and Discoverer Viewer end users to access data to which the PUBLIC role has access.
- Discoverer Plus and Viewer users cannot add, edit, or delete public connections.

  For more information about how to create public connections, see Section 4.6, "How to create public connections".

4.3 About managing Discoverer connections?

As a middle tier manager, you use Application Server Control to manage Discoverer connections, as follows:

- to provide public connections to enable Discoverer Plus and Discoverer Viewer users to start Discoverer (for more information, see Section 4.6, "How to create public connections")
- to enable Discoverer Plus and Discoverer Viewer users to create their own (i.e. private) connections to start Discoverer (for more information, see Section 4.5, "About specifying whether Discoverer end users can create their own private connections")

Notes

- For information about how to migrate Discoverer connections from one Oracle Business Intelligence installation to another, see *Oracle Business Intelligence Discoverer Publishing Workbooks in Oracle Application Server Portal*.

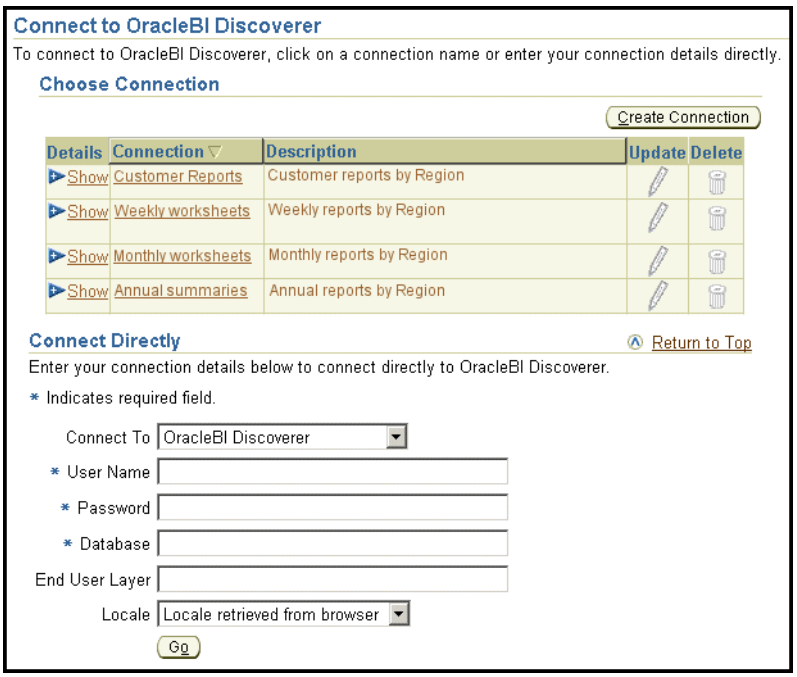
4.4 About the Discoverer connections page

There are two Discoverer connections pages:

- Connect to Discoverer Viewer, which is used to start Discoverer Viewer using a set of stored login details or by connecting directly.
- Connect to Discoverer Plus, which is used to start Discoverer Plus using a set of stored login details or by connecting directly.

The figure below shows the Connect to Discoverer Plus page.

Figure 4–2 Connect to OracleBI Discoverer page



4.5 About specifying whether Discoverer end users can create their own private connections

You can specify whether Discoverer end users can create their own private connections (for more information, see Section 4.8, "How to specify whether Discoverer end users can create private connections").

Note: Public connections are not available to Discoverer Plus OLAP users. If you disallow private connections, Discoverer Plus OLAP users will always have to connect to Discoverer directly.

If you enable Discoverer end users to create their own private connections:

- end users will be able to specify any login details (e.g. user name, password, database, EUL) for the new connections that they create
- end users will be able to open any workbooks in any EULs that they successfully connect to (providing that they have sufficient database privileges)

Notes

- When end users create private connections, note the following:
  - if they specify a database using an alias, they can connect to databases that have an entry in the tnsnames.ora file
  - if they specify a database using the full tnsnames entry for the database (e.g. SID, address, port), they can connect to databases that do not have an entry in the tnsnames.ora file on the Discoverer middle tier

    For example, you might enter the following string in the Database field:

    (DESCRIPTION=(ADDRESS_LIST=(ADDRESS = (PROTOCOL=TCP)(HOST=machine_a.company.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=database1)))

    Hint: Make sure that you remove spaces from the TNS string.

  For more information about the location of the tnsnames.ora file, see Section A.1, "List of Discoverer file locations".

4.6 How to create public connections

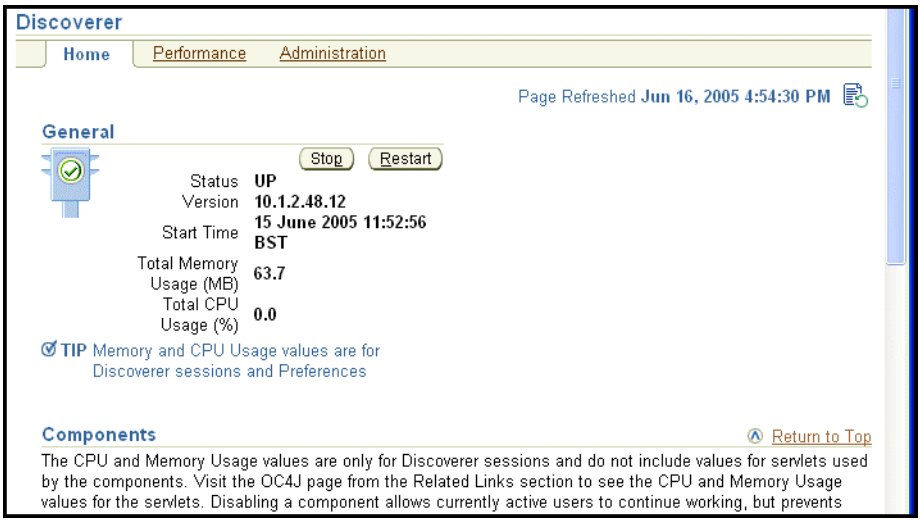
You create a public connection when you want to provide pre-defined login details to Discoverer Plus and Discoverer Viewer users. For example, you might create a public connection called Start tutorial, which connects to the tutorial database as a tutorial user. You delete public connections when you no longer require them.

Note: When you create a public Discoverer Plus OLAP connection (i.e. a public connection to a multidimensional data source) the public connection will only be available to Discoverer Viewer and Discoverer Portlet Provider users. Public OLAP connections are not available to Discoverer Plus OLAP users.

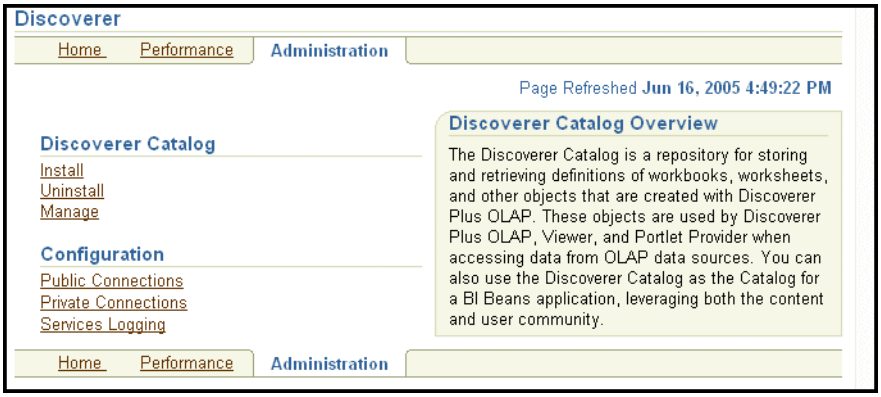
Hint: In a secure Discoverer environment you might want to use only public connections, so that you can restrict database access to login details that you specify. In other words, you might also disallow Discoverer end users from creating private connections (for more information, see Section 4.5, "About specifying whether Discoverer end users can create their own private connections").

To create a public connection:

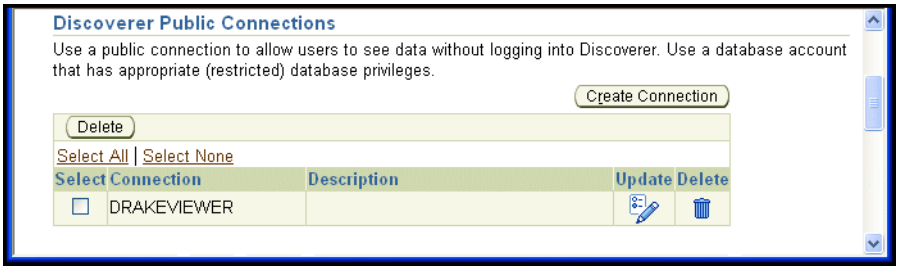
1. Display Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").



3. Display the **Administration** tab.

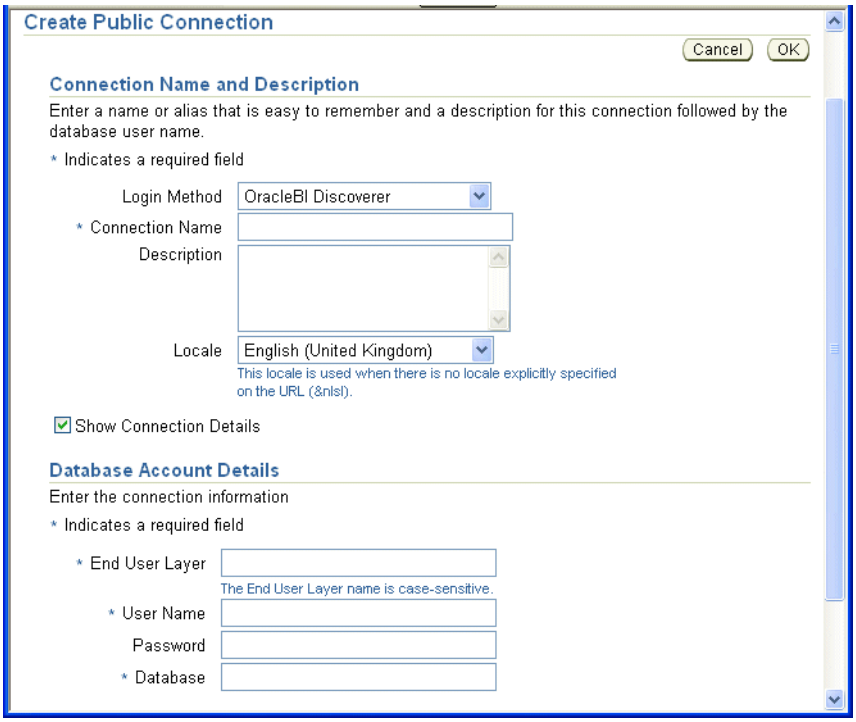


4. Select the **Public Connections** link to display the Discoverer Public Connections area.



Note: If the **Public Connections** link is not displayed, the Oracle Business Intelligence installation is not associated with an OracleAS Infrastructure. For information about how to associate an Oracle Business Intelligence installation with an OracleAS Infrastructure, see Section 2.2, "How to associate an OracleBI installation with an OracleAS Infrastructure".

5. Click Create Connection to display the Create Public Connection page.



6. Enter the connection details, then click OK to save the details.

   The new connection that you created is displayed in the Discoverer Public Connections list.

   When Discoverer end users connect to Discoverer Plus or Discoverer Viewer, they will be able to select the connection that you have just created.

Notes

- For information about how to find out the unique ID of a connection, see Section 13.4.3, "How to find out the connection ID of a connection".
- If you specify a database using the full tnsnames entry for the database (e.g. SID, address, port), you can connect databases that do not have an entry in the tnsnames.ora file. For example, you might enter the following string in the Database field:

  (DESCRIPTION=(ADDRESS_LIST=(ADDRESS = (PROTOCOL=TCP)(HOST=machine_a.company.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=database1)))

  Hint: Make sure that you remove spaces from the TNS string.

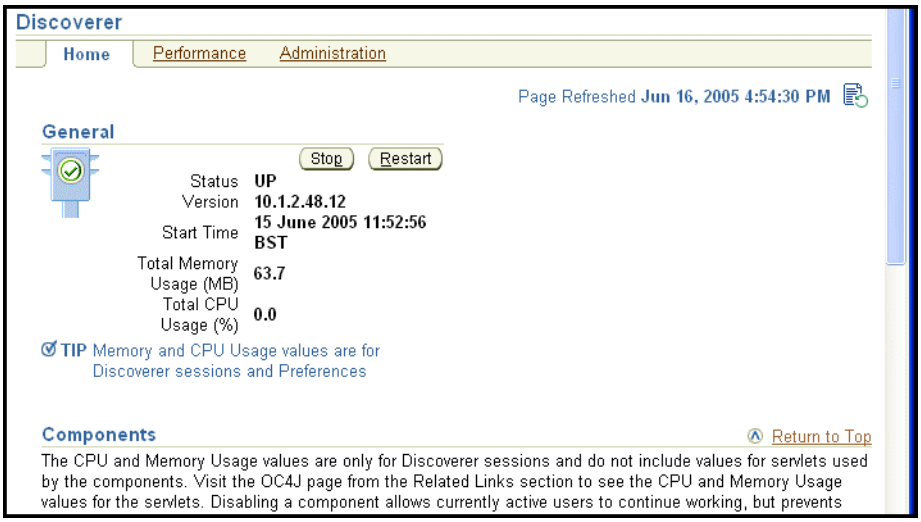
4.7 How to delete public connections

You delete a public connection when you no longer want to provide pre-defined login details to Discoverer Plus and Discoverer Viewer users.

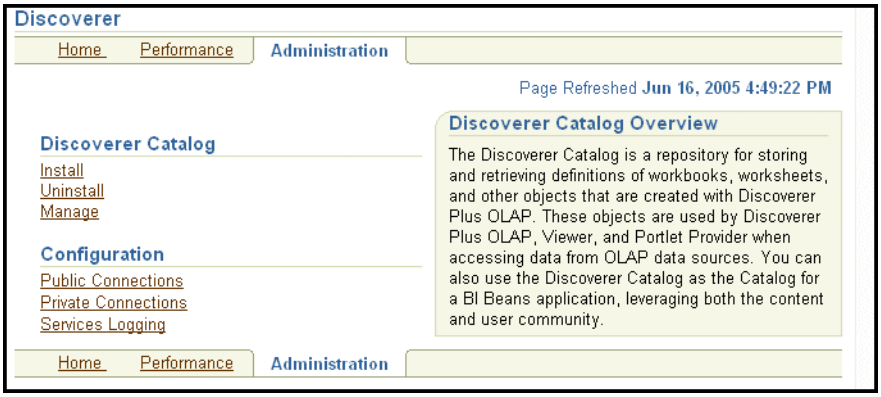
To delete a public connection:

1. Display Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").

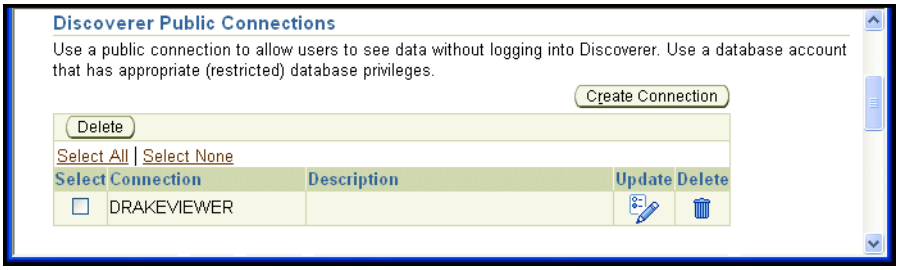
2. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").



3. Display the **Administration** tab.



4. Select the **Public Connections** link to display the Discoverer Public Connections area.



5. Click the trash can icon in the **Delete** column next to the name of the connection that you want to delete to display the Confirmation dialog.

6. Click Yes at the confirmation page to permanently delete the connection

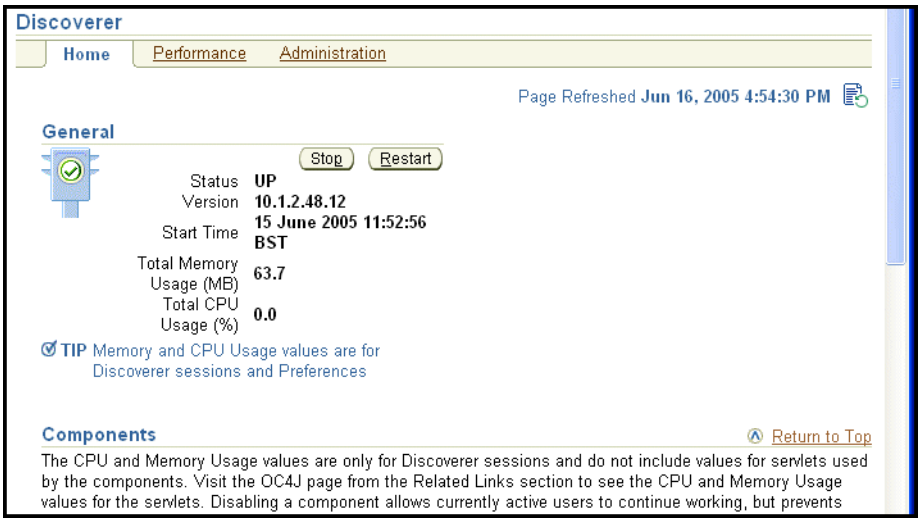
   The connection that you deleted is removed from the Discoverer Public Connections list and will no longer be displayed on the Discoverer Connections page in Discoverer Plus and Discoverer Viewer.

When Discoverer end users connect to Discoverer Plus or Discoverer Viewer, they will no longer be able to select the public connection that you have just deleted.

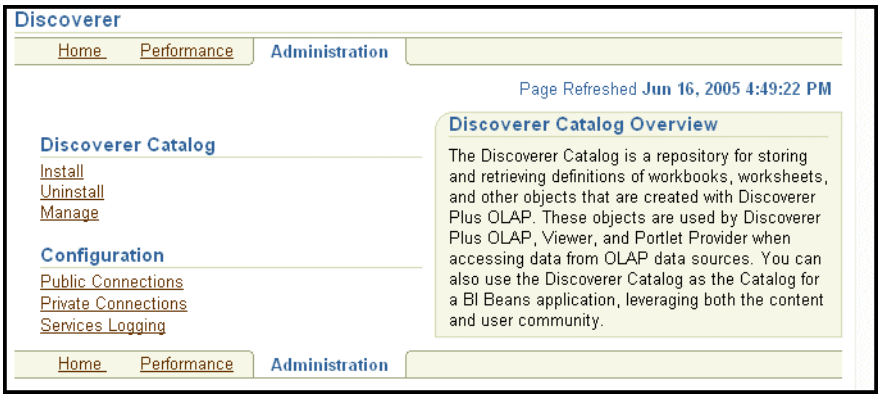
4.8 How to specify whether Discoverer end users can create private connections

To specify whether Discoverer Plus and Discoverer Viewer users can create private connections:

1. Display Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").



3. Display the **Administration** tab.



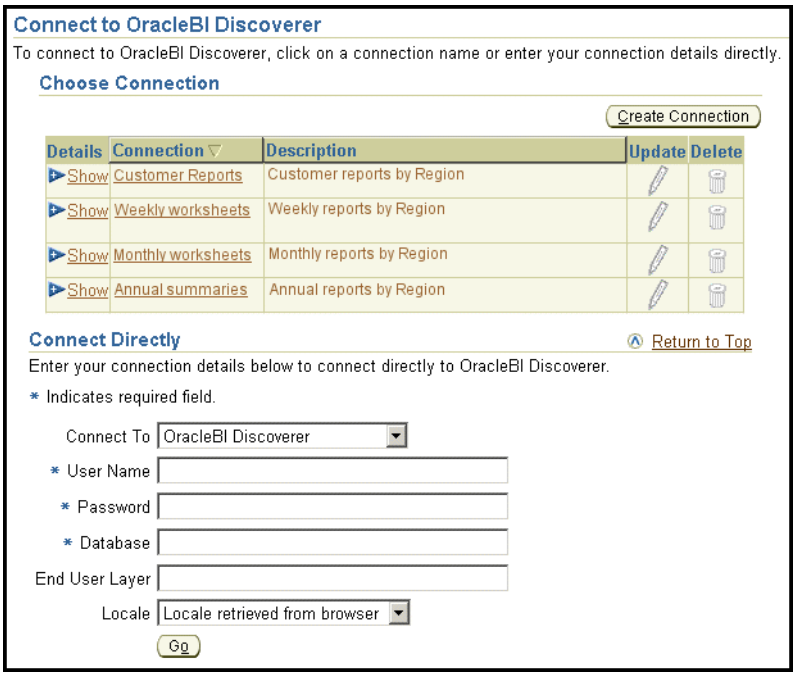
4. Select the **Private Connections** link to display the Discoverer Private Connections area.
5. Specify whether users can create private connections, as follows:
   - Select the **Allow users to define and use their own private connections in Discoverer Plus and Discoverer Viewer** check box if you want Discoverer end users to be able to create their own private connections.

- Clear the **Allow users to define and use their own private connections in Discoverer Plus and Discoverer Viewer** check box if you want to restrict Discoverer end users to only using public connections that you specify.

6. Click OK to save the details.

   If you enable Discoverer end users to create private connections, they will see a Create Connection button on the Discoverer Connections page. For example, in the figure below the Create Connection button is available.

Figure 4–3 Connections page in OracleBI Discoverer Plus



Notes

- If you clear the **Allow users to define and use their own private connections in Discoverer Plus and Discoverer Viewer** check box:
  - Discoverer end users cannot start Discoverer using URL parameters, unless they specify the connection ID for a public connection using the cn= URL parameter (for more information, see Section 13.7, "List of URL parameters common to Discoverer Plus and Viewer").
- The Details column on the Discoverer connections page is only visible in Internet Explorer.

5

Managing and configuring OracleBI Discoverer

Note: This chapter only applies to Discoverer Plus, Discoverer Viewer, and Discoverer Portlet Provider. For more information about configuring Discoverer Plus OLAP, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".

This chapter explains how to manage and configure OracleBI Discoverer, and includes the following topics:

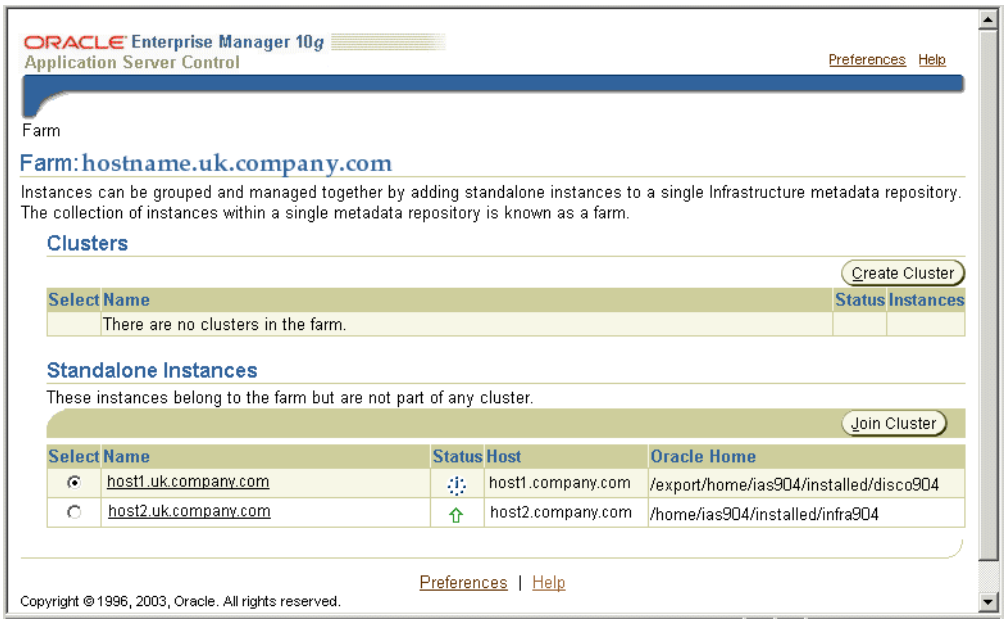
5.1 About Oracle Enterprise Manager Application Server Control

Oracle Enterprise Manager Application Server Control is part of Oracle Enterprise Manager, which provides a comprehensive systems management platform for managing Oracle middle tier products.

Application Server Control provides Web-based management tools that enable you to monitor and configure Oracle components (e.g. OracleBI Discoverer, OracleAS Portal, OracleAS HTTP Server). You can deploy applications, manage security, and create Oracle Application Server clusters.

The figure below shows the Application Server Control main page.

Figure 5–1 Application Server Control main page



Notes

- For more information about managing OracleAS components using Application Server Control, see *Application Server Control Help* and *Oracle Enterprise Manager Advanced Configuration*.
- For more information about how to display Application Server Control, see Section 5.1.2, "How to start Application Server Control and display the System Components page".
- For more information about OracleAS installations, see Section 7.2, "About Oracle Business Intelligence installations".
- For more information about configuring Discoverer Plus OLAP, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".

5.1.1 Why use Application Server Control with Discoverer?

You use Application Server Control with Discoverer to:

- stop and start components
- set configuration options
- monitor performance
- diagnose problems

The following table lists some of the Discoverer configuration tasks that you might perform using Application Server Control:

Discoverer management task	Where can I find out more information about this task?
Administer the Discoverer Catalog (i.e. install, uninstall and manage catalog).	Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".
Customize the look and feel, and page layout of Discoverer Viewer.	Chapter 9, "Customizing OracleBI Discoverer"

Discoverer management task	Where can I find out more information about this task?
Enable and disable Discoverer client tier components.	Section 5.4, "About disabling and enabling Discoverer client tier components"
Manage connections for Discoverer Plus and Discoverer Viewer.	Section 4.3, "About managing Discoverer connections?"
Monitor Discoverer metrics.	Section 5.7, "About monitoring Discoverer metrics"
Search for and analyze Discoverer log files.	Section D.2, "About Discoverer diagnostics and logging"
Select the locale for public connections.	Chapter 4, "Managing OracleBI Discoverer connections"
Specify a different Java Plug-in for Discoverer Plus (e.g. Sun Java Plug-in).	Section 5.9.1, "How to specify a different Java Virtual Machine for Discoverer Plus"
Customize Discoverer Plus and Discoverer Viewer (e.g. specify a logo to use in Discoverer Plus, change the default look and feel).	Chapter 9, "Customizing OracleBI Discoverer"
Specify caching settings for Discoverer Viewer.	Section 5.6.1, "How to change configuration options for individual Discoverer client tier components"
Specify communication protocols for the Discoverer Plus middle tier.	Section 14.6.3.3, "How to display the OracleBI Discoverer Plus Communications Protocols page in Application Server Control"
Specify delay times for Discoverer Viewer.	Section 5.6.1, "How to change configuration options for individual Discoverer client tier components"
Specify PDF settings for Discoverer Viewer.	Section 5.6.1, "How to change configuration options for individual Discoverer client tier components"
Specify printing settings for Discoverer Viewer.	Section 5.6.1, "How to change configuration options for individual Discoverer client tier components"
Specify the maximum number of Discoverer Portlet Provider sessions to pool and the number of generic portlet parameters allowed in a Discoverer worksheet portlet.	Chapter 11, "Using OracleBI Discoverer with OracleAS Portal"
Specify the use of caching, logging level, printing paper sizes, PDF generation, email settings and delay times (for Query Progress page and export completion) for Discoverer Viewer.	*Application Server Control Help*
Start and stop the Discoverer Service.	Section 5.3, "About starting and stopping the Discoverer Service"
Start and stop the Discoverer servlets.	Section 5.5, "How to start and stop the Discoverer servlets"

5.1.2 How to start Application Server Control and display the System Components page

You use Application Server Control to configure OracleBI and OracleAS components (e.g. OracleBI Discoverer, OracleAS Portal). For example, if you want to start or stop

the Discoverer Service, view current session details, or configure default user preferences for all users.

To display Application Server Control:

1. Start a Web browser and enter the Application Server Control URL containing the fully qualified host name and domain of the OracleBI installation that you want to configure.

   For example:

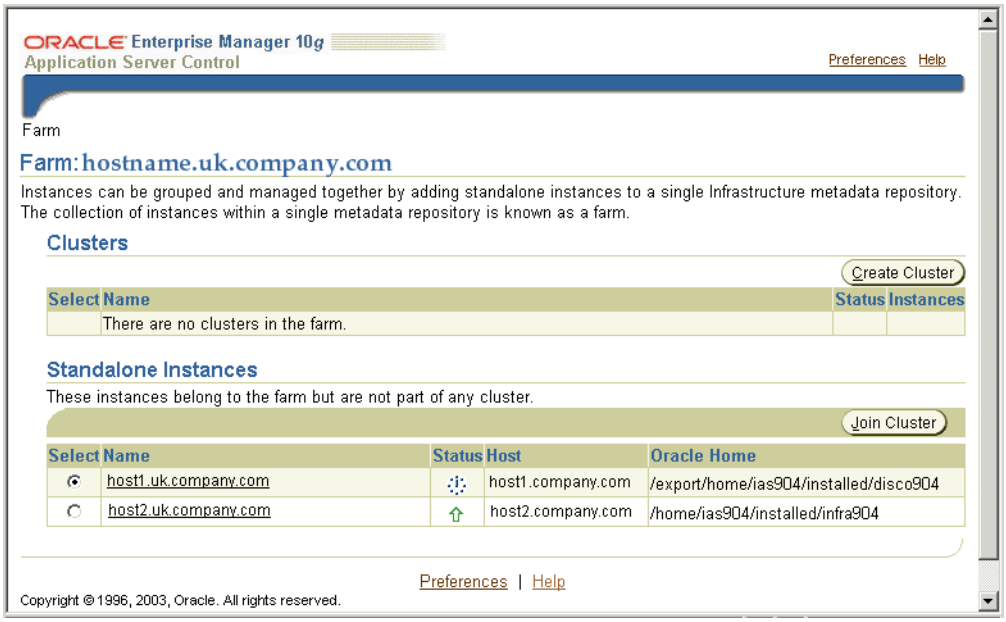
   http://<*host.domain*>:1810

   Hint: To find out the URL for Oracle Application Server Control in your installation, look in the file <ORACLE_HOME>/install/setupinfo.txt.

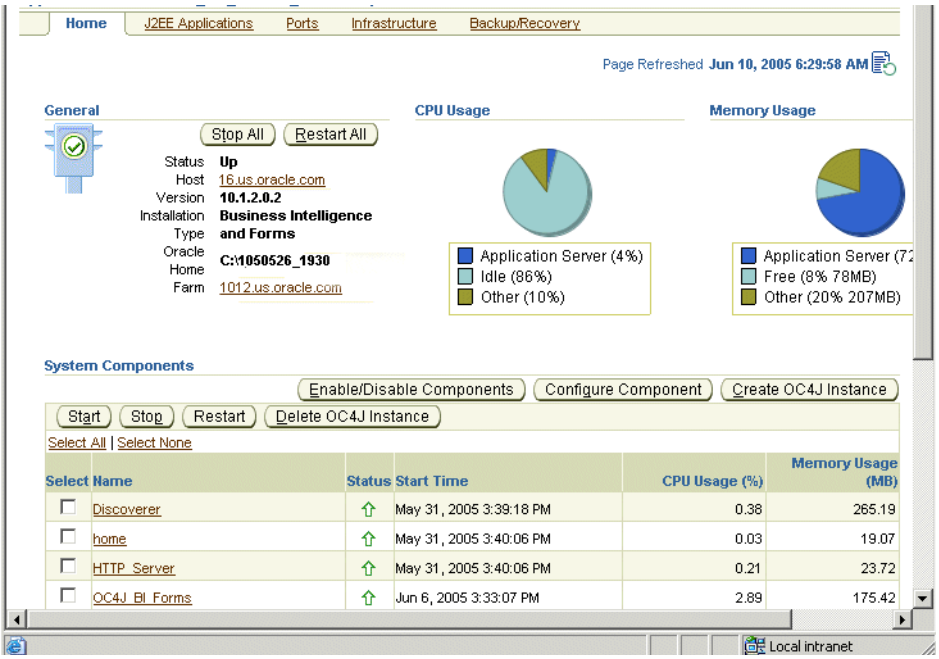
2. When prompted, enter an Application Server Control user name and password.

3. Click OK.

   If the Oracle Business Intelligence installation is associated with an OracleAS Infrastructure, the Application Server Control Home Farm page is displayed.



4. In the **Name** column, select the instance containing the Oracle Business Intelligence installation to display the Application Server Home page.



Note: If the Oracle Business Intelligence installation is a standalone installation, the Application Server Control Home Farm page is not displayed and you go straight to the Application Server Home page.

Notes

- For a brief overview of OracleAS installations, see Section 7.2, "About Oracle Business Intelligence installations".
- Experienced administrators can modify the default port, but in most cases the port specified for Application Server Control is 1810.

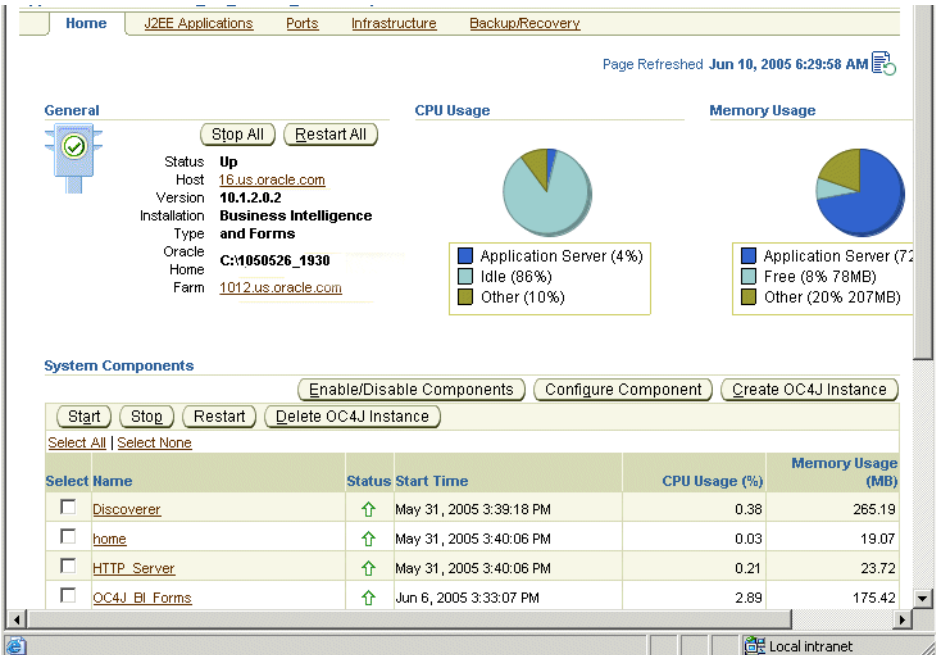
5.1.3 How to display the Application Server Control Discoverer Home page

You display the Application Server Control Discoverer Home page to monitor, configure, and manage Discoverer installations.

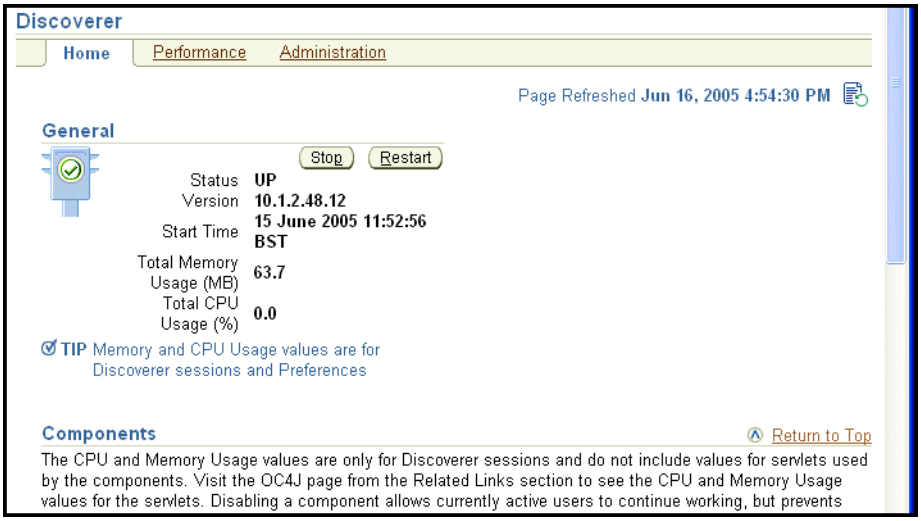
To display the Application Server Control Discoverer Home page:

1. Start Application Server Control and navigate to the System Components page (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").

   Application Server Control displays a list of OracleAS System Components available for the Oracle Business Intelligence installation (e.g. Discoverer, OC4J, HTTP Server).



2. In the **Name** column, select the Discoverer link to display the Application Server Control Discoverer Home page.

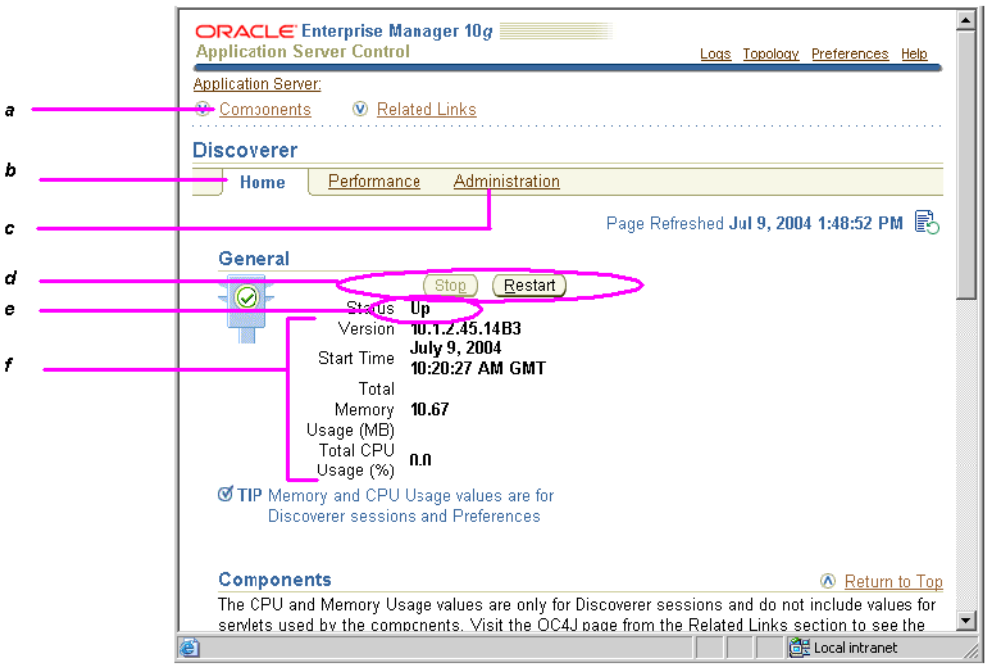


From the Application Server Control Discoverer Home page, you can stop and restart Discoverer client tier components, and manage all aspects of Discoverer (see figure below).

Notes:

- The figure below shows the Application Server Control Discoverer Home page.

Figure 5–2 Application Server Control Discoverer Home page



Key to figure:
a. Link to the Discoverer Components area (for more information, see Section 5.2, "About using Application Server Control to manage Discoverer components")
b. The Home tab of the Application Server Control Discoverer page.
c. The Administration tab to display Discoverer Catalog administration and Discoverer configuration pages.
d. Buttons to start and stop the Discoverer Service.
e. Current Status indicator, which shows whether the Discoverer Service is running (i.e. Up) or not running (i.e. Down).
f. General information about the Discoverer component (e.g. memory and CPU usage).

5.2 About using Application Server Control to manage Discoverer components

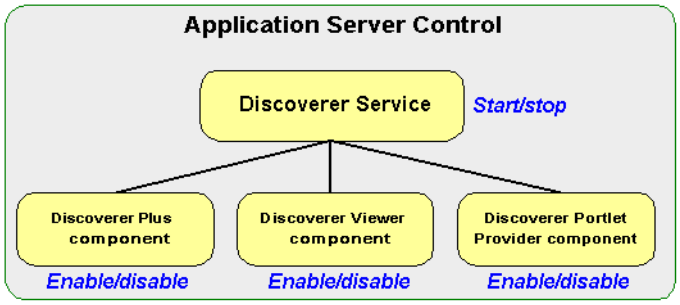
As a middle tier manager, you use Application Server Control to manage the following Discoverer components:

- the Discoverer Service
- the Discoverer Plus component
- the Discoverer Viewer component
- the Discoverer Portlet Provider component
- the Discoverer servlets (for more information, see Section 5.5, "How to start and stop the Discoverer servlets")

The main tasks that you perform using Application Server Control are:

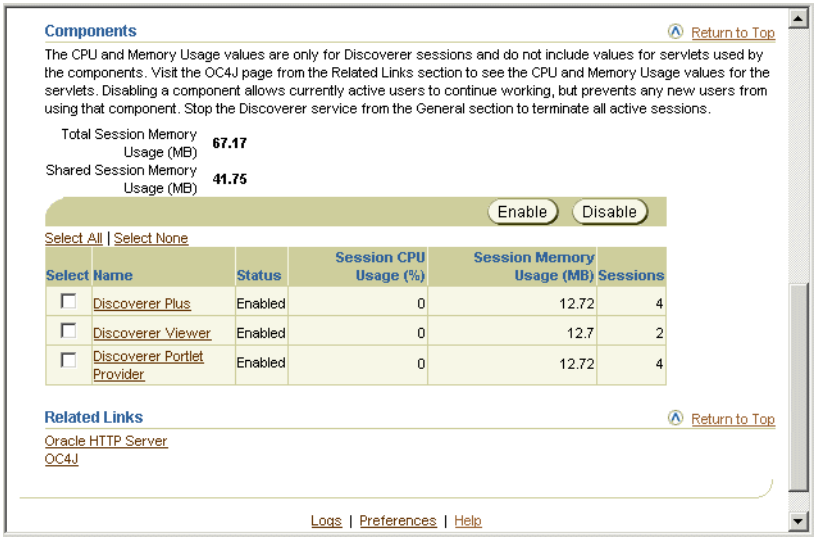
- stopping and starting the Discoverer Service
- enabling and disabling the Discoverer Plus component, Discoverer Viewer component, and Discoverer Portlet Provider component

Figure 5–3 Using Application Server Control to manage Discoverer components



The figure below shows the Discoverer Plus component, Discoverer Viewer component, and Discoverer Portlet Provider component displayed in the Application Server Control Discoverer Home page.

Figure 5–4 Discoverer components displayed in the Application Server Control Discoverer Home page



Notes

- Discoverer Portlet Provider is only displayed in the components list if the Discoverer installation is associated with an Oracle Infrastructure installation. For more information, see Section 2.1, "About installing Oracle Business Intelligence".
- For more information about the Discoverer Service, see Section 1.8.2, "About the Discoverer CORBA components (Discoverer Service)".
- For more information about the Discoverer client tier components, see Section 1.7, "About the Discoverer client tier".

5.2.1 What happens when you enable or disable Discoverer client tier components?

What happens when you enable or disable Discoverer client tier components depends on whether the Discoverer Service is running, as show below:

Is the Discoverer Service running?	What happens when you enable Discoverer client tier components?	What happens when you disable Discoverer client tier components?
Yes	Discoverer client tier components resume normal operation.	Existing Discoverer sessions continue as normal, but no new Discoverer sessions are allowed. A message is displayed that informs the Discoverer end user that the component is disabled (for more information, see Section 5.4, "About disabling and enabling Discoverer client tier components").
No	Nothing happens immediately. When you start the Discoverer Service, the Discoverer client tier components resume normal operation.	Nothing happens immediately (for more information, see Section 5.4, "About disabling and enabling Discoverer client tier components").

5.3 About starting and stopping the Discoverer Service

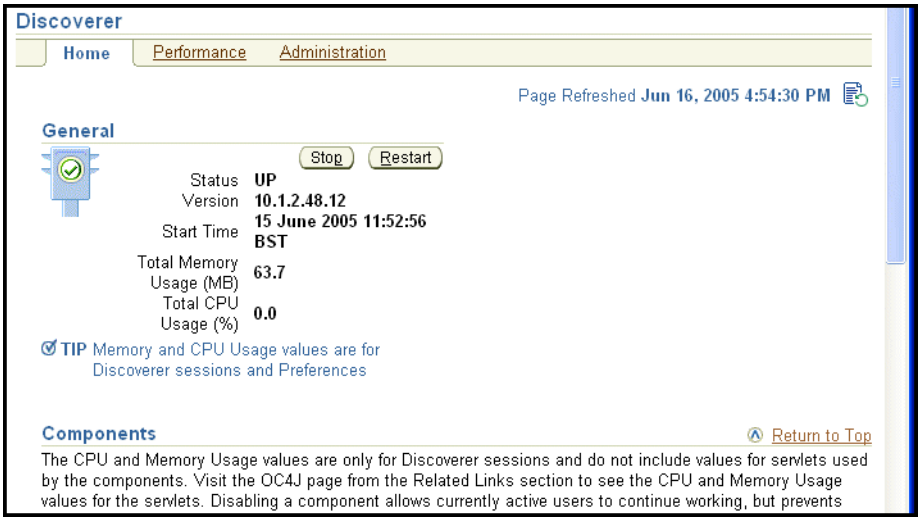
The Discoverer Service comprises the following:

- Discoverer Session
- Discoverer Preference

For more information about the Discoverer Service, see Section 1.8.2, "About the Discoverer CORBA components (Discoverer Service)".

You use Application Server Control to start, stop, and monitor the Discoverer Service running on a machine. For example, you might need to start and stop the Discoverer Service for maintenance (e.g. when you apply a Discoverer patch).

Figure 5–5 The Application Server Control Discoverer Home page displaying the Discoverer Service options



For information about starting or stopping the Discoverer Service, see Section 5.3.1, "How to stop or restart the Discoverer Service on a machine".

Notes

- When you start the Discoverer Service, note the following:

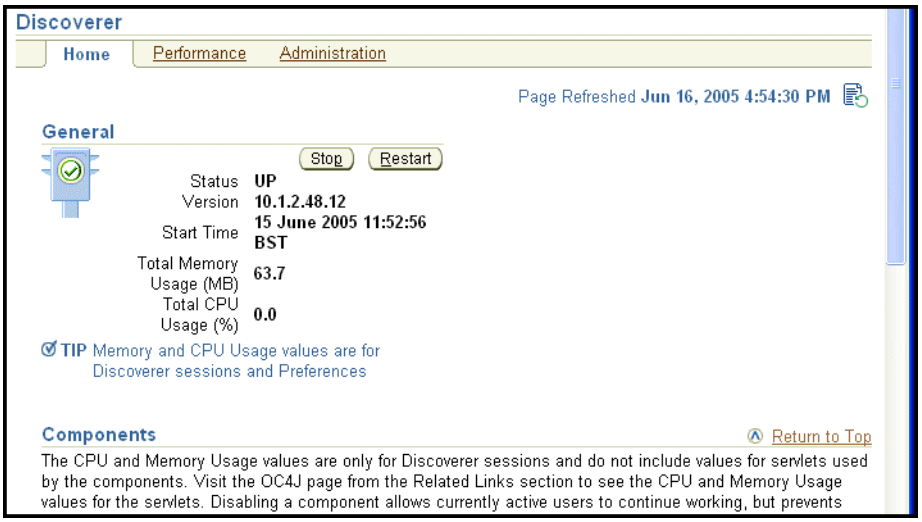
    - If all Discoverer servlets are running and are not disabled, Discoverer Viewer, Discoverer Plus, and Discoverer Portlet Provider can connect to Discoverer sessions and begin to serve requests (e.g. users can open workbooks using Discoverer Viewer, build worksheets using Discoverer Plus, and create portlets using Discoverer Portlet Provider).
    - The Current Status indicator shows that the Discoverer Service is running (i.e. set to 'Up').
- If the Discoverer Service fails to start:
    - the Current Status indicator shows that the Discoverer Service is not running (i.e. set to 'Down')
    - Application Server Control displays an error message indicating why the Discoverer Service failed to start
- When you stop the Discoverer Service, note the following:
    - Discoverer Plus users cannot access the Discoverer Plus URL and an information message is displayed informing users that the Discoverer Service is down (i.e. a No Response from Application Web Server).
    - Discoverer Viewer users cannot access the Discoverer servlet URL and an error message is displayed that the Discoverer Service is down (i.e. No Response from Application Web).
    - Discoverer Portlet Provider users cannot publish new portlets, edit defaults, customize or refresh portlets, and an information message is displayed informing users that the Discoverer Service is down (i.e. a No Response from Application Web Server).
    - Discoverer servlets release system resources that they are using.
    - Discoverer displays existing portlets in Portal pages using cached data.
    - All Discoverer sessions are terminated.
    - The following processes are terminated (if running):
        * Discoverer Session
        * Discoverer Preference
- Discoverer Plus, Discoverer Viewer, and Discoverer Portlet Provider cannot connect to Discoverer sessions or serve requests (e.g. users cannot open workbooks using Discoverer Viewer, build worksheets using Discoverer Plus, or create portlets using Discoverer Portlet Provider).
- The Current Status indicator shows that the Discoverer Service is not running (i.e. set to 'Down').
- If the Discoverer Service fails to stop:
    - and all components are still running, the Status indicator indicates that the Discoverer Service is up
    - and not all components are running, the Status indicator indicates that the Discoverer Service is in an unknown state
    - Discoverer displays an error message that indicates why the Discoverer Service failed to stop

5.3.1 How to stop or restart the Discoverer Service on a machine

You might want to start the Discoverer Service after maintenance. For example, after the Discoverer Service has been stopped to apply a Discoverer patch.

To start and stop the Discoverer Service on a machine:

1. Display the Application Server Control Discoverer Home page for the machine that you want to configure (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").



2. Do one of the following:
   - click Restart to start the Discoverer Service
   - click Stop to stop the Discoverer Service
3. Click Yes at the confirmation page.

5.4 About disabling and enabling Discoverer client tier components

Sometimes you will want to disable and enable end user access to Discoverer client tier components (i.e. Discoverer Plus, Discoverer Viewer, and Discoverer Portlet Provider).

For example, you might want to:

- prevent new users from connecting to Discoverer

  However, existing users can still complete their work. When all users have disconnected, you can stop the Discoverer Service.

- restrict access to Discoverer components

  You might disable Discoverer Plus, Discoverer Viewer, or Discoverer Portlet Provider to prevent users from connecting, due to security restrictions or other policies.

The Discoverer client tier components behave differently when you disable them, as follows:

- When you disable the Discoverer Plus and Discoverer Viewer components, Discoverer behaves as follows:

- All existing Discoverer Plus or Discoverer Viewer sessions will continue to run until users end their sessions.
- Requests for new user sessions are not accepted. Users whose sessions time out due to inactivity cannot continue to use Discoverer Plus or Discoverer Viewer.

  Note: A user time out is determined differently between Discoverer Plus and Discoverer Viewer as follows:

  – Discoverer Plus uses the server process to determine user time outs

  – Discoverer Viewer uses the servlet to determine user time outs
- When a user attempts to access a Discoverer Plus or Discoverer Viewer URL, Discoverer displays an error message explaining that the service is unavailable.

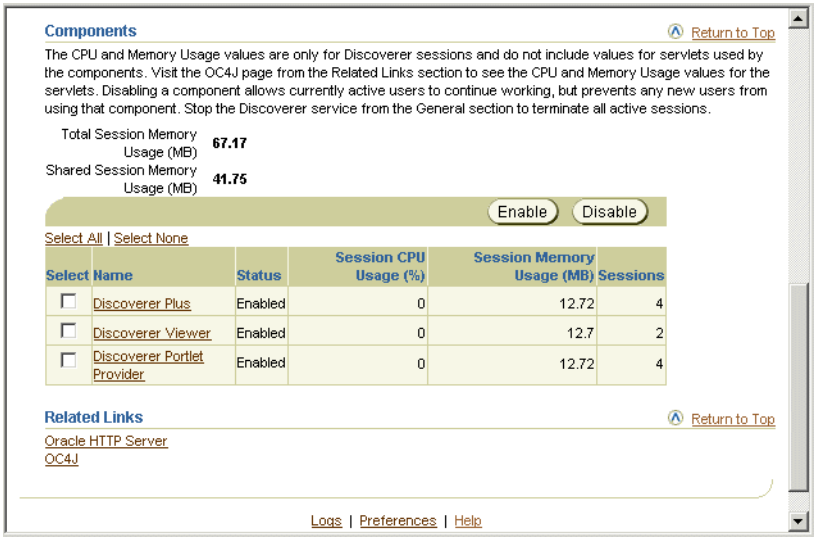
- When you disable the Discoverer Portlet Provider component, Discoverer behaves as follows:
  - New Discoverer portlets cannot be added to Portal pages.
  - A user cannot use the Edit Defaults option or the Customize option for existing portlets.
  - If a user is already editing defaults or customizing a portlet when the component is disabled, they can finish the task.
  - Scheduled refreshes that are running can complete. However, scheduled refreshes that have not yet started will not run until you enable the Portlet Provider component.
  - If a user attempts to add a new portlet, edit defaults, or customize an existing portlet, Discoverer displays a message explaining that the service is not available.
  - Discoverer will continue to display data in existing Discoverer portlets using the last cached data.

5.4.1 How to disable Discoverer client tier components

You might need to disable one or more Discoverer client tier components to perform maintenance. For example, to apply a Discoverer patch, or to restrict user access to a Discoverer component.

To disable Discoverer client tier components:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. Select the **Components** link to display the Components area.



3. In the Components area, select the check box in the **Select** column for the Discoverer component(s) that you want to disable.

   For example, to disable Discoverer Plus, select the **Discoverer Plus** check box.

4. Complete the following steps to disable the selected Discoverer component:

   a. Click Disable.

      Application Server Control displays a warning message.

   b. Click Yes to begin the process that disables the Discoverer component.

      Application Server Control displays a Processing message.

   The **Status** column displays 'Disabled' for the Discoverer component(s) that you selected.

Notes

- Alternatively, click a link in the **Name** column to display the Home page for the component you selected and click Disable.

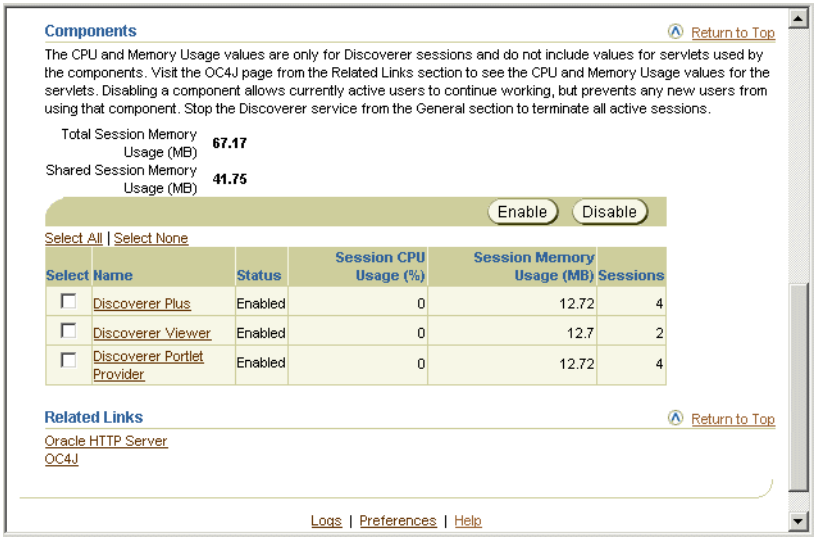
5.4.2 How to enable Discoverer client tier components

You might need to enable one or more Discoverer client tier components after performing maintenance. For example, after you have applied a Discoverer patch, or to enable user access to a Discoverer component.

To enable Discoverer client tier components:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").

2. Select the **Components** link to display the Components area.



3. In the Components area, select a check box in the **Select** column for the Discoverer component(s) that you want to enable.

   For example, to enable Discoverer Plus, select the **Discoverer Plus** check box.

4. Complete the following steps to enable the selected Discoverer component:

   a. Click Enable.

      Application Server Control displays a warning message.

   b. Click Yes to begin the process that enables the Discoverer component.

      Application Server Control displays a warning message.

   The **Status** column displays 'Enabled' for the Discoverer component(s) that you selected.

Notes

- Alternatively, click a link in the **Name** column to display the Home page for the component you selected and click Enable.

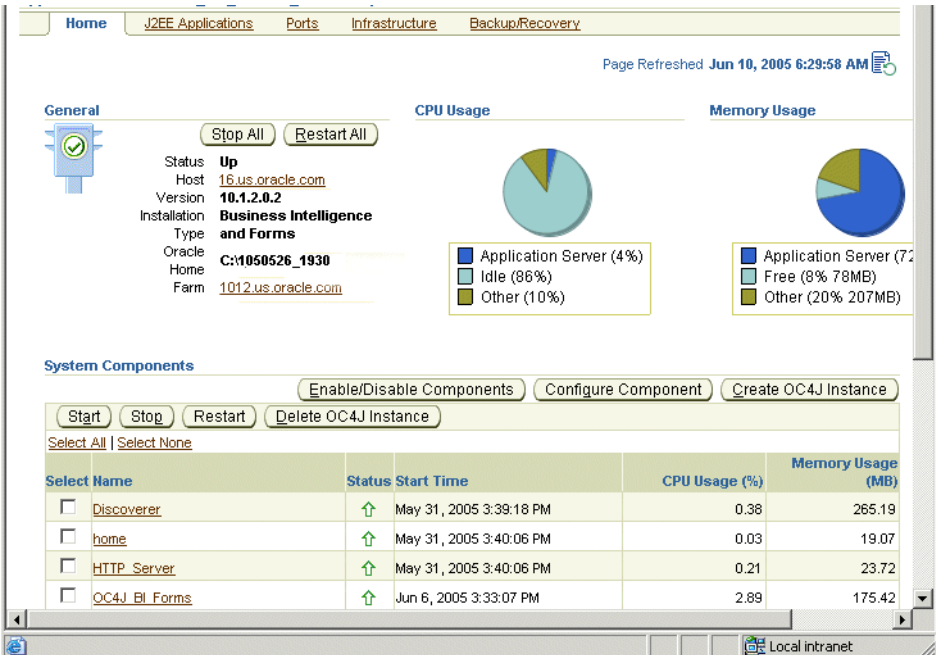
5.5 How to start and stop the Discoverer servlets

You can start and stop the Discoverer servlets (i.e. the Discoverer J2EE components) running on a standalone machine in an OracleAS component farm from any machine in the farm. For example, you might want to perform maintenance tasks on a machine and need to stop the Discoverer servlets.

For more information about the Discoverer servlets, see Section 1.8.1, "About the Discoverer J2EE components".

To start and stop the Discoverer servlets:

1. Start Oracle Application Server Control and display the System Components page (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").



2. In the **Name** column, select the OC4J_BI_Forms link to display the OC4J_BI_Forms page.
3. Do one of the following:
   - click Start to start the OC4J_BI_Forms component, which starts the Discoverer servlets (i.e. Discoverer Plus, Discoverer Viewer, Discoverer Portlet Provider)
   - click Stop to stop the OC4J_BI_Forms component, which stops the Discoverer servlets (i.e. Discoverer Plus, Discoverer Viewer, Discoverer Portlet Provider)
   - click Restart to stop and then start the OC4J_BI_Forms component, which starts the Discoverer servlets (i.e. Discoverer Plus, Discoverer Viewer, Discoverer Portlet Provider)

5.6 About configuring the options for the Discoverer Service and Discoverer client tier components

You use Application Server Control to configure options for the Discoverer Service and the Discoverer client tier component as follows:

- using the Discoverer Administration tab in Oracle Application Server Control, you can:
  - install and manage the Discoverer Catalog
  - manage public connections (i.e. create, edit, and delete connections)
  - enable users to create their own private connections
  - configure Discoverer session logging
- using the Discoverer Components pages in Oracle Application Server Control, you can:
  - specify the communication protocol, look and feel, Java Plug-in type, and session logging settings for Discoverer Plus

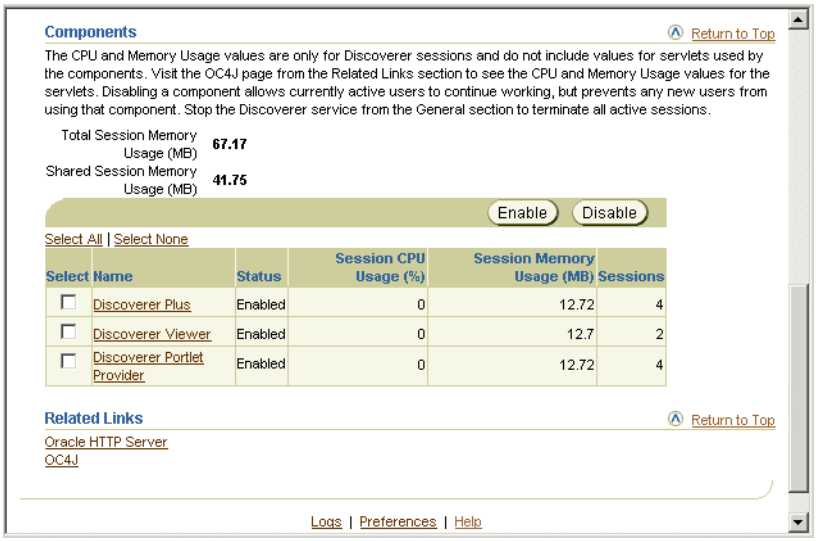
- specify caching, session logging, delay time, printing, email, PDF generation, and Connection supported settings for Discoverer Viewer
- specify session, session logging, and generic parameter settings for Discoverer Portlet Provider (available if the Discoverer installation is associated with an OracleAS Infrastructure.

For more information about how to configure Discoverer and Discoverer component options, see Section 5.6.1, "How to change configuration options for individual Discoverer client tier components".

5.6.1 How to change configuration options for individual Discoverer client tier components

To change configuration options for individual Discoverer client tier components:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. Select the **Components** link to display the Components area.



3. In the Components area, in the **Name** column, select the Discoverer link (i.e. Discoverer Plus, Discoverer Viewer, or Discoverer Portlet Provider) for the component that you want to configure.

   Oracle Application Server Control displays the Home configuration page for the component you select. For example, select the Discoverer Plus link to display the Home page for Discoverer Plus.

4. In the General area, select any of links in the **Configuration** area to display the Configuration page for that component, as follows:
   - The Discoverer Plus Configuration page has the following options:
     - the **Logo** area enables you to change the Discoverer Plus logo
     - the **Look and Feel** area enables you to change the Discoverer Plus look and feel (for more information, see Section 9.1, "Customizing Discoverer Plus")

  - the **Java Plug-in** area enables you to specify a different Java Plug-in for Discoverer Plus
  - the **Communication Protocols** area enables you to specify either the JRMP, HTTP, or HTTPS protocol (for more information, see Section 14.6.3.2, "About specifying a Discoverer Plus communication protocol").
  - the **Plus Logging** area enables you to maintain Discoverer Plus logging options
- The Discoverer Viewer Configuration page has the following options:
  - the **Caching** area enables you to enable and disable OracleAS Web Cache
  - the **Printing Paper Sizes** area enables you to specify paper sizes available for printing
  - the **PDF Generation** area enables you to specify a PDF resolution and maximum memory settings
  - the **Email** area enables you to specify an SMTP server for sending email (for more information, see Section D.1.10, "Configuring a SMTP Server for Discoverer Viewer")
  - the **Viewer Delay Times** area enables you to specify how long to wait before Discoverer Viewer displays a query progress page, or the frequency for checking for export completion
  - the **Viewer Logging** area enables you to set Discoverer Viewer logging options
- The Discoverer Portlet Provider Configuration page has the following options:
  - the **Discoverer Session** area enables you to fine tune the caching for Discoverer portlets in order to maximize Discoverer performance
  - the **Portlet Generic Parameters** area enables you to specify the number of generic parameters that you want the Discoverer Worksheet Portlet to expose
  - the **Portlet Provider Logging** area enables you to set Discoverer Portlet Provider logging options

Note: For more information about configuration fields, see *Application Server Control Help*. You can also find more information about the settings in the **Discoverer Session** area in Section A.2, "List of configuration settings in configuration.xml" and in Section 12.3.12, "How to improve Discoverer Portlet Provider performance".

5. Modify the configuration options as required.

   For more information about each option, see *Application Server Control Help*.

6. Click OK to save the changes you have made.

Note: Configuration changes take effect when Discoverer users next log in to Discoverer. You do not have to restart the Discoverer Service or the Discoverer servlets.

5.7 About monitoring Discoverer metrics

As the Discoverer middle tier administrator, you will typically want to analyze system performance by monitoring a number of statistics or metrics. This enables you to easily

compare the total resources used by Discoverer with other installed applications and services.

You can use Application Server Control to monitor the following Discoverer metrics:

- current status
- uptime
- memory usage
- CPU usage
- session information

You can view the Discoverer metrics in two different ways:

- you can view summary metrics for all Discoverer client tier components
- you can view individual metrics for particular client tier components

For more information about how to monitor Discoverer metrics, see:

- Section 5.7.1, "How to monitor summary metrics for all Discoverer client tier components"
- Section 5.7.2, "How to monitor metrics for a single Discoverer client tier component"

Notes

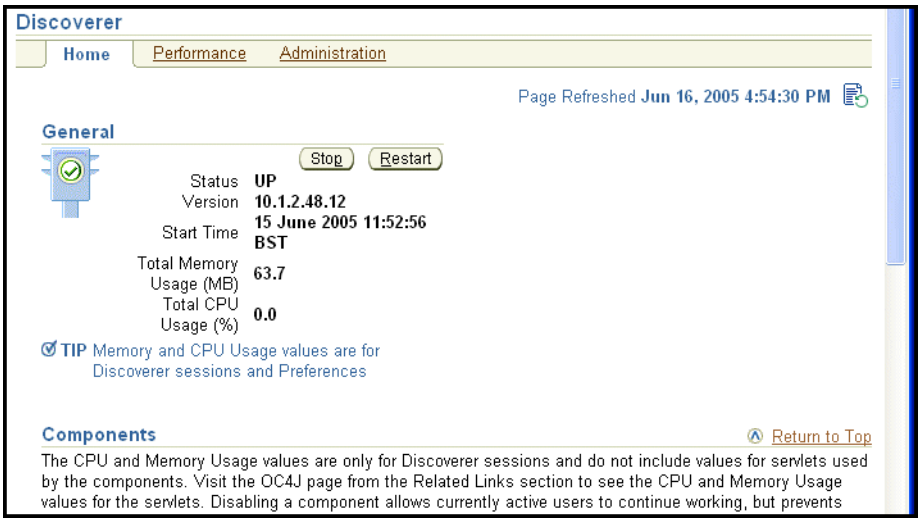
- Metrics are a snapshot taken at the time displayed on the Application Server Control page and do not update automatically. To get up-to-date metrics, choose the refresh option in the browser.

5.7.1 How to monitor summary metrics for all Discoverer client tier components

You might want to monitor metrics for all Discoverer client tier components. For example, to view the total amount of memory or CPU that the Discoverer system is using.

To monitor metrics for all Discoverer client tier components:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").



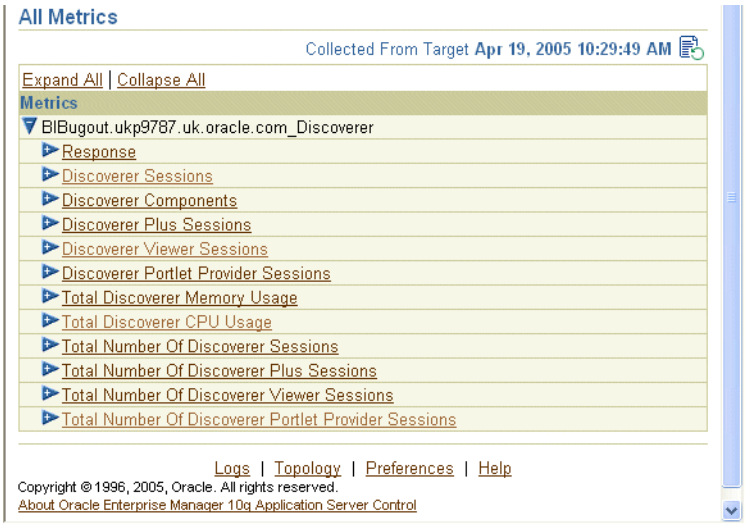
The Application Server Control Discoverer Home page displays general information and summary metrics.

Note the following:

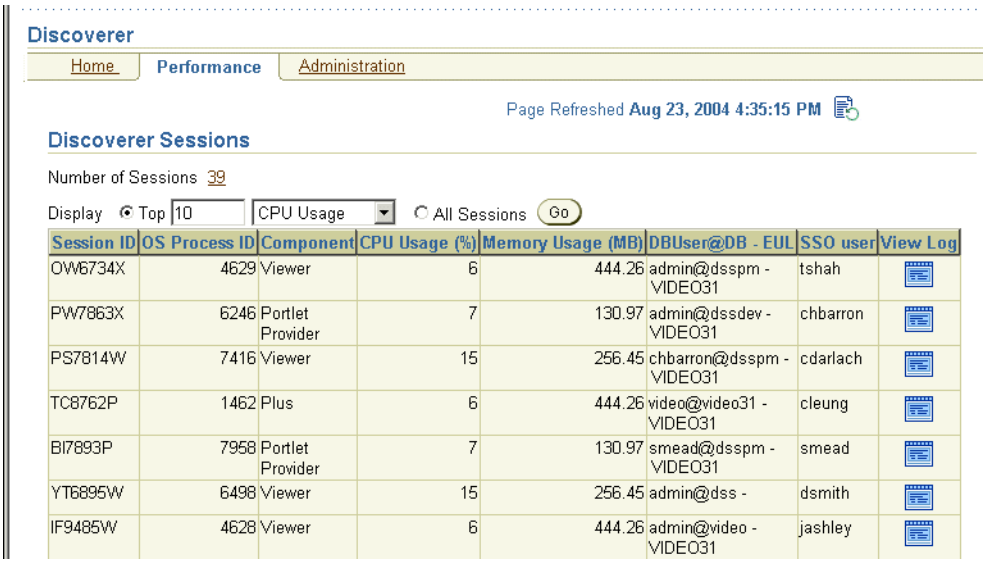
- The CPU and memory consumption of the Discoverer servlets are not included in this figure (i.e. the Discoverer Viewer, Discoverer Plus, and Discoverer Portlet Provider servlets).
- If the **Current Status** indicator is Down, Application Server Control does not display figures for the **Uptime**, **CPU Usage** and **Memory Usage**.

2. (optional) In the Related Links area, select the **All Metrics** link to display the All Metrics page.

   The All Metrics page displays an expandable list of performance metrics for Discoverer. You can drill down into individual metrics to show a value for each performance metric. For example, if you select the **Discoverer Sessions** link, you can monitor metrics for Private Memory Usage and Shared Memory usage for all Discoverer sessions.



3. (optional) Display the Performance tab or page to show session details for all Discoverer client tier components.



Session ID	OS Process ID	Component	CPU Usage (%)	Memory Usage (MB)	DBUser@DB - EUL	SSO user	View Log
OW6734X	4629	Viewer	6	444.26	admin@dsspm - VIDEO31	tshah	
PW7863X	6246	Portlet Provider	7	130.97	admin@dssdev - VIDEO31	chbarron	
PS7814W	7416	Viewer	15	256.45	chbarron@dsspm - VIDEO31	cdarlach	
TC8762P	1462	Plus	6	444.26	video@video31 - VIDEO31	cleung	
BI7893P	7958	Portlet Provider	7	130.97	smead@dsspm - VIDEO31	smead	
YT6895W	6498	Viewer	15	256.45	admin@dss -	dsmith	
IF9485W	4628	Viewer	6	444.26	admin@video - VIDEO31	jashley	

The Performance tab or page displays:

- the total number of sessions
- a list of the top N sessions ordered by either CPU usage or memory usage

For more information about the Discoverer session details displayed on this page, see *Application Server Control Help*.

4. (optional) Click the file icon in the **View Log** column on the Performance page to display the View Logs page.

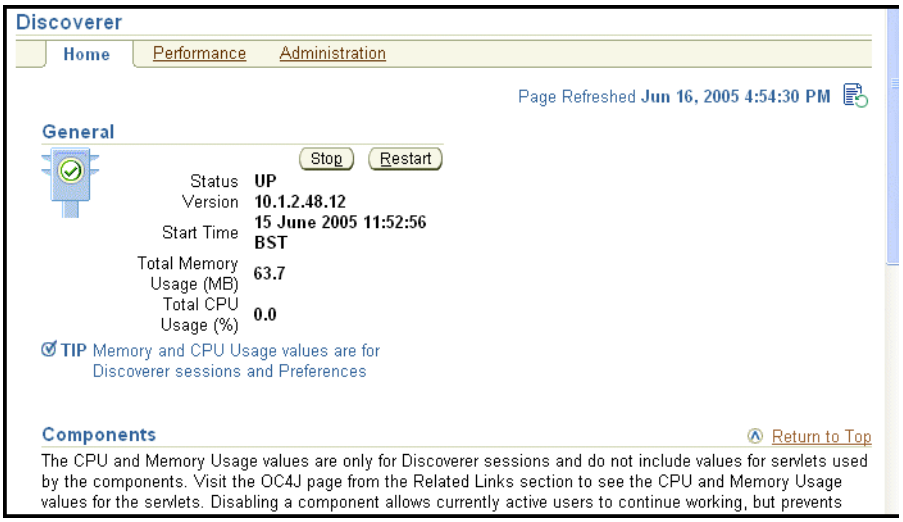
   The View Logs page displays all the log information for the selected Discoverer session.

5.7.2 How to monitor metrics for a single Discoverer client tier component

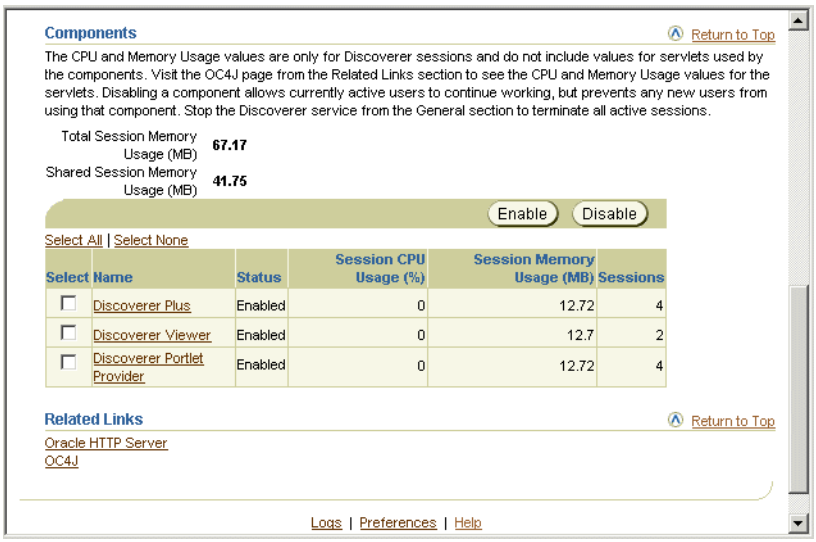
You might want to monitor metrics for a single Discoverer component (i.e. Discoverer Plus, Discoverer Viewer, or Discoverer Portlet Provider). For example, you might want to find out exactly how many sessions are currently used by Discoverer Plus users compared to Discoverer Viewer users.

To monitor metrics for a single Discoverer client tier component:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").



2. Select the **Components** link to display the Components area.



3. In the **Name** column of the Components area, select the Discoverer link for the component that you want to monitor.

   For example, select the Discoverer Plus link to display the Home page for Discoverer Plus.

   Application Server Control displays the Home page for the Discoverer component that you selected.

   Each Discoverer component Home page displays general information and summary metrics. The Discoverer component home page is similar to the metrics on the Application Server Control Discoverer Home page, except that the metrics are specific to the displayed Discoverer component.

4. (optional) Display the Performance page to show session details for the selected Discoverer component.

   The Performance page displays:

   - the total number of sessions for this Discoverer component

- a list of the top N sessions for this Discoverer component, ordered by either CPU usage or memory usage

For more information about the Discoverer session details displayed on this page, see *Application Server Control Help*.

5. (optional) Click the file icon in the **View Log** column on the Performance page to display the View Logs page.

   The View Logs page displays log information for the selected Discoverer session.

Notes

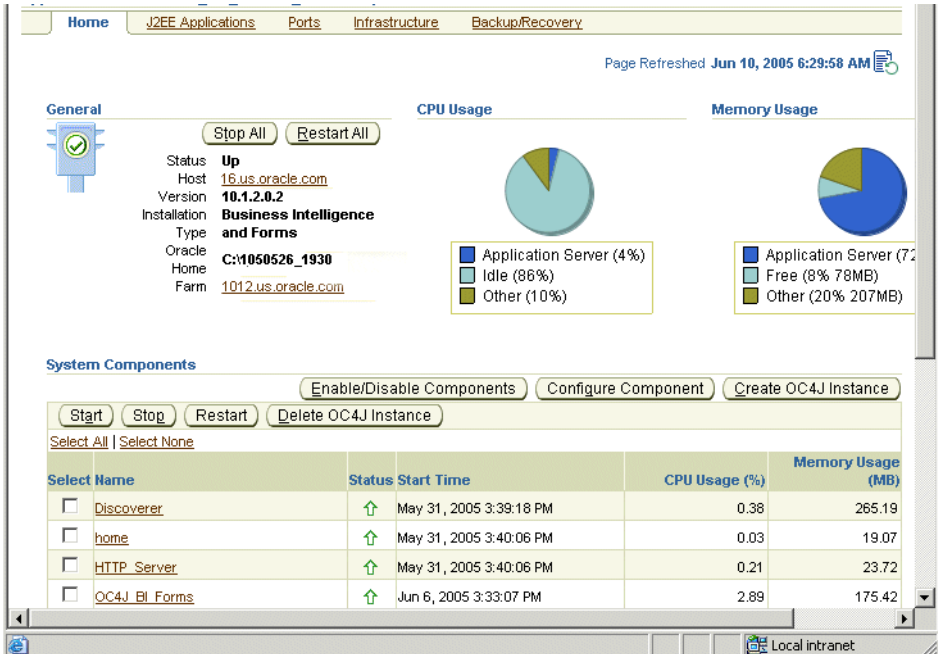
- The CPU and memory consumption of the Discoverer servlets (i.e. the Discoverer Viewer, Plus and Portlet Provider servlets) are not included in this figure.
- If the **Current Status** indicator is Down, Application Server Control does not display figures for the **Uptime**, **CPU Usage** and **Memory Usage**.
- Discoverer Plus OLAP connects directly the database, and does not create sessions on the middle tier.

5.8 How to list ports used by Oracle Application Server

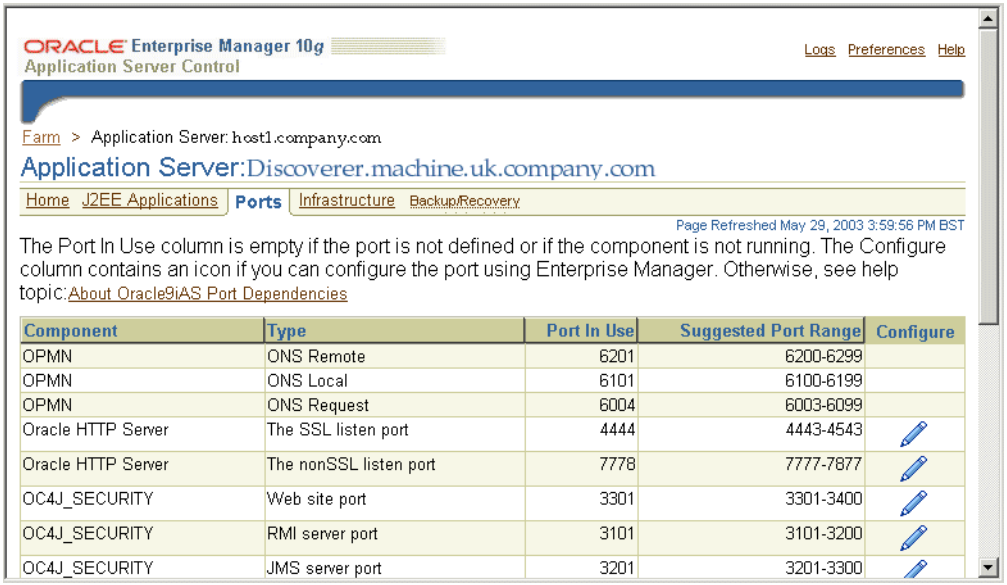
Discoverer uses the same listen ports as the Oracle HTTP Server (of type Listen or Listen (SSL)).

To see a list of ports used by Oracle Application Server:

1. Start Oracle Application Server Control and display the System Components page (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").



2. Display the Ports tab.



Component	Type	Port In Use	Suggested Port Range	Configure
OPMN	ONS Remote	6201	6200-6299	
OPMN	ONS Local	6101	6100-6199	
OPMN	ONS Request	6004	6003-6099	
Oracle HTTP Server	The SSL listen port	4444	4443-4543	
Oracle HTTP Server	The nonSSL listen port	7778	7777-7877	
OC4J_SECURITY	Web site port	3301	3301-3400	
OC4J_SECURITY	RMI server port	3101	3101-3200	
OC4J_SECURITY	JMS server port	3201	3201-3300	

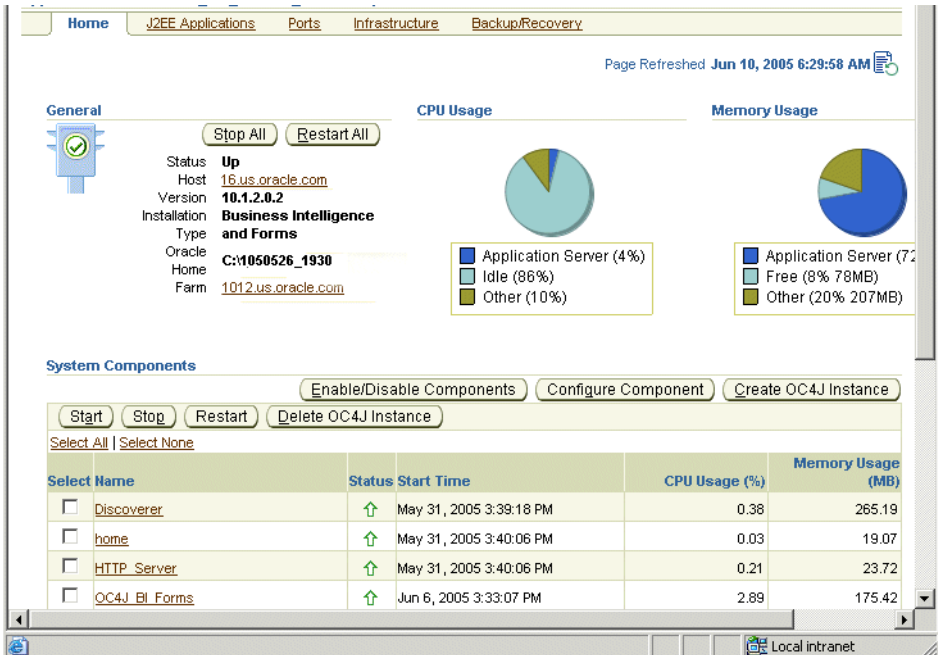
Refer to the value in the **Port In Use** column for the Oracle HTTP Server component in the **Component** column (for type Listen or Listen (SSL)).

For information about changing the default OracleAS ports for OracleAS components, see Section 5.8.1, "How to change the port on which Discoverer is deployed".

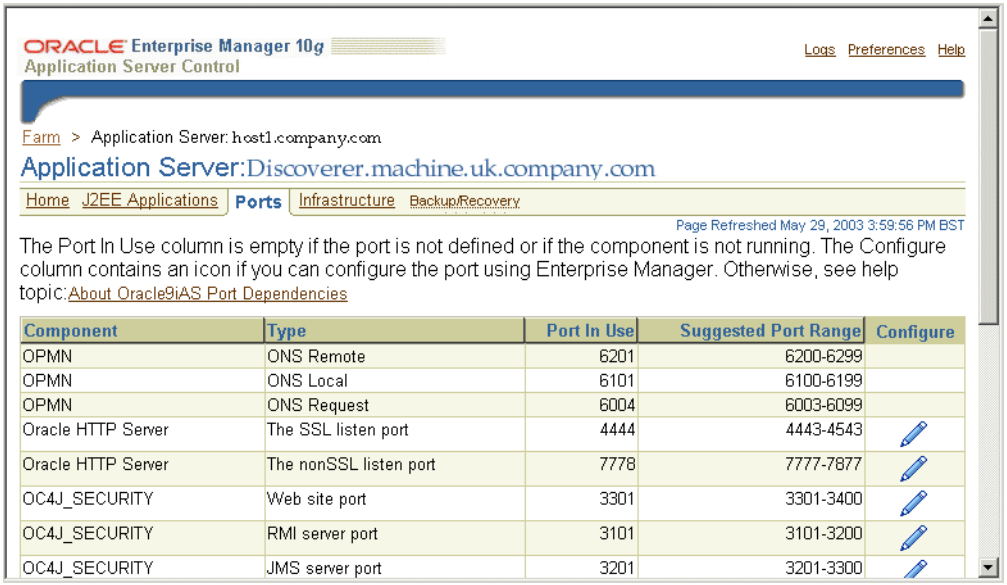
5.8.1 How to change the port on which Discoverer is deployed

To change the port on which Discoverer is deployed:

1. Start Oracle Application Server Control and display the System Components page (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").

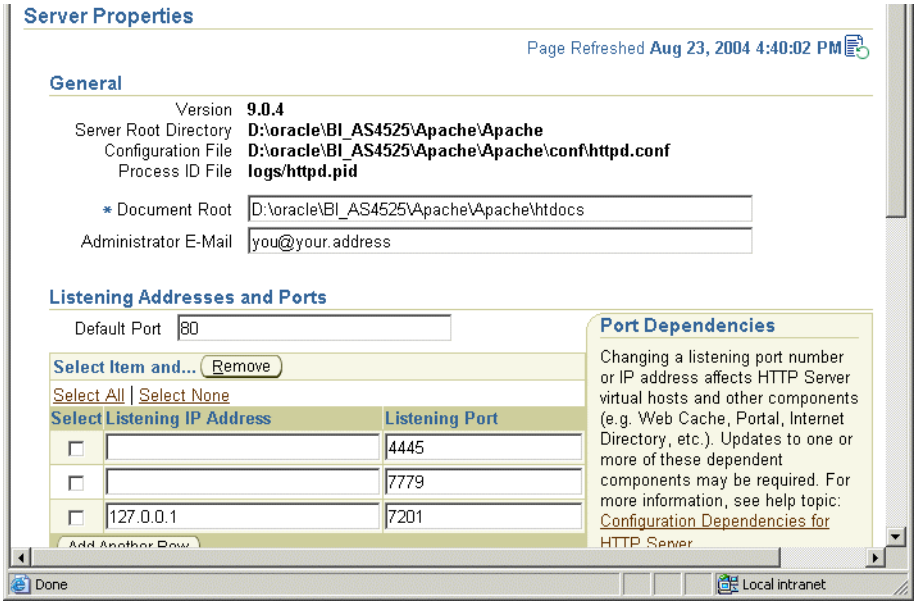


2. Display the Ports tab.



Component	Type	Port In Use	Suggested Port Range	Configure
OPMN	ONS Remote	6201	6200-6299	
OPMN	ONS Local	6101	6100-6199	
OPMN	ONS Request	6004	6003-6099	
Oracle HTTP Server	The SSL listen port	4444	4443-4543	
Oracle HTTP Server	The nonSSL listen port	7778	7777-7877	
OC4J_SECURITY	Web site port	3301	3301-3400	
OC4J_SECURITY	RMI server port	3101	3101-3200	
OC4J_SECURITY	JMS server port	3201	3201-3300	

3. In the rows containing the Oracle HTTP Server component (Type=Listen), select the edit icon in the **Configure** column to display the Server Properties page for that component.



4. Scroll down to the Listening Addresses and Ports area and change the port number in the **Default Port** field.
5. Click OK.
6. When you are prompted to restart the Oracle HTTP Server, click Yes.

   For more information about the Server Properties page in Application Server Control, see *Application Server Control Help*.

   Hint: If you change a Discoverer port number, make sure that any other OracleAS components that use that Discoverer port number are synchronized.

5.9 About running Discoverer Plus with different Java Virtual Machines

OracleBI Discoverer Plus supports the following default Java Virtual Machines (JVMs):

- Sun Java Plug-in (default)
- Oracle JInitiator

You might want to change the JVM in the following circumstances:

- if you want to use a newer version of the JVM to improve performance
- if a different JVM is already installed and you want to use that JVM
- if you want to deploy Discoverer Plus on a non-Windows browser that requires a different JVM (e.g. for which JInitiator is not available)

Note: If you use a different JVM, you must ensure that it is certified to work with Oracle Business Intelligence.

If Discoverer Plus users use Apple Mac OS X client machines, you must specify the Sun Java Plug-in on the Discoverer middle tier (for more information, see Section 5.9.1, "How to specify a different Java Virtual Machine for Discoverer Plus").

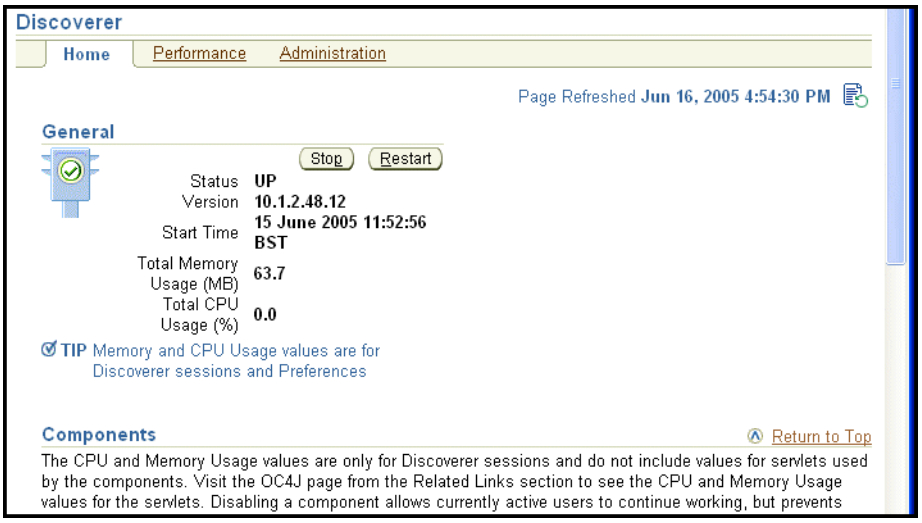
You can specify a different JVM in one of two ways:

- to toggle between the Sun Java Plug-in or JInitiator version installed with OracleBI, use Oracle Enterprise Manager (for more information, see Section 5.9.1, "How to specify a different Java Virtual Machine for Discoverer Plus")
- to choose your own Java Plug-in or JInitiator version, edit the configuration.xml file directly (for more information, see Section 5.9.2, "How to specify your own Java Virtual Machine for Discoverer Plus")

5.9.1 How to specify a different Java Virtual Machine for Discoverer Plus

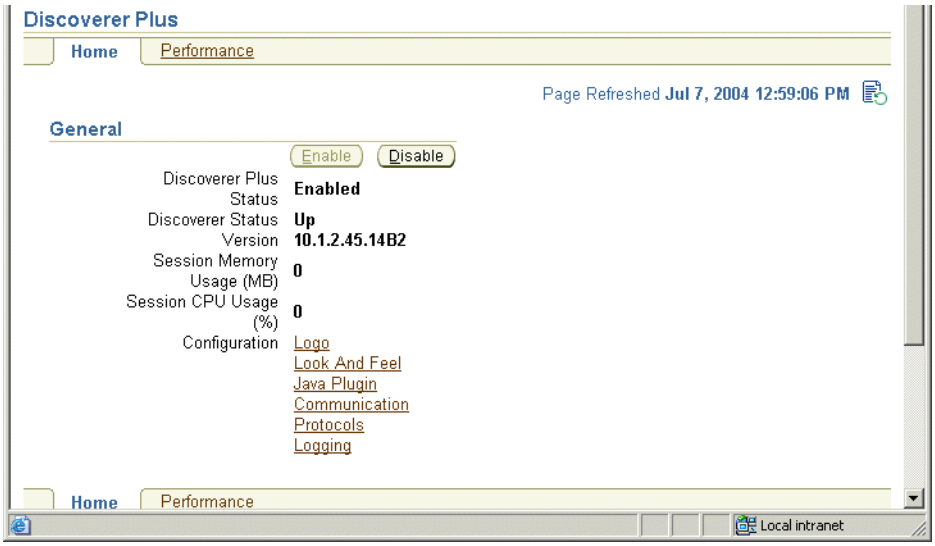
To specify a different Java Virtual Machine for Discoverer Plus:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").

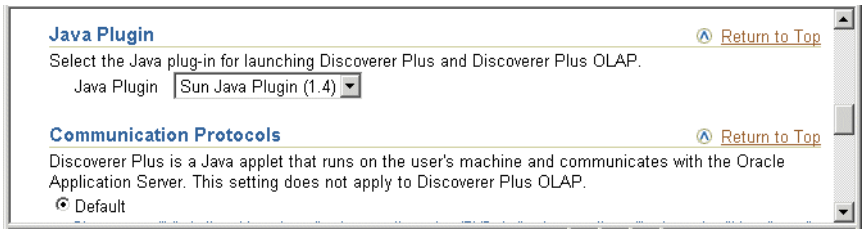


2. Select the **Discoverer Plus** link to display the Application Server Control Discoverer Plus Home page.

Hint: To display the Discoverer Plus link, either scroll down the page to the Components area, or select the **Components** link.



3. Select the **Java Plugin** link to display the Java Plug-in area.



4. Select an option (e.g. Sun Java Plug-in <*version*>) from the **Java Plugin** drop down list.

   Note: If Discoverer Plus users use Apple Mac OS X client machines, you must select the Sun Java Plug-in option (for more information about using Discoverer Plus on Apple Mac client browser machines, see Section 3.6, "About running Discoverer Plus over HTTP for the first time on a client machine").

5. Click OK to save the changes you have made.

5.9.2 How to specify your own Java Virtual Machine for Discoverer Plus

To specify your own Java Virtual Machine for Discoverer Plus:

1. Open the configuration.xml file in a text editor or XML editor (for more information about the location of configuration files, see Section A.1, "List of Discoverer file locations").

2. Locate the jvm attributes for the plus element.

```
<plus laf="plastic" lafJar="" lafClass="" logLevel="error" plugin="sun" helpSet="help">
  <transport name="jrmp"/>
  <transport name="http"/>
  <logo rendered="true" src="default" url="" file=""/>
  <jvm name="sun" classid="clsid:CAFEEFAC-0014-0002-0004-ABCDEFFEDCBA" plugin_setup="http:/
  <jvm name="jinitiator" classid="clsid:CAFECAFE-0013-0001-0017-ABCDEFABCDEF" plugin_setup=
  <enablePlus status="true">Plus was stopped by your Administrator.</enablePlus>
</plus>
<!-- Portlet Provider configuration. -->
<portlet logKey="disco.portlet.fatal" logLevel="error" pickerCompatibleVersions="10.1.2">
  <enablePortlet status="true"/>
```

3. Edit the jvm attributes for the plus element.

   For example, change the version or URL of the JVM.

   Hint: To change the Java Plug-in details, edit the <jvm name = "sun" ...> entry. To change the JInitiator details, edit the <jvm name = "jinitiator" ...> entry.

4. Save the configuration.xml file.

   The specified JVMs will now be available to use for Discoverer Plus sessions.

   Hint: Make sure that you have selected the correct JVM in Oracle Application Server Control. For example, if you specify a different JInitiator version in the configuration.xml file, make sure that you select JInitiator in Oracle Application Server Control (for more information, see Section 5.9.1, "How to specify a different Java Virtual Machine for Discoverer Plus").

5.10 About configuring Discoverer to export to Web Query format

Microsoft Excel Web Query is an external data format in Microsoft Excel that enables you to include dynamic data from a URL (e.g. a Discoverer worksheet) in a Microsoft Excel worksheet. For example, you might want to create a Microsoft Excel worksheet that contains a Discoverer sales report for a range of dates that you specify when you open the worksheet in Microsoft Excel. The Microsoft Excel worksheet stores the query used to obtain the Discoverer data, so that the data can be refreshed automatically.

You can export data to Web Query format from Discoverer Plus and Discoverer Viewer.

Note: To access Discoverer data in Web Query format, you need Microsoft Excel 2000 or later.

Discoverer enables Microsoft Excel Web Query format by default using the default Discoverer URL "http://machine-name:port/discoverer/viewer". If you want to disable Microsoft Excel Web Query format or change the Discoverer URL, you must add the following preferences to the pref.txt file on each Discoverer host:

- ExportToWebquery=<0 or 1>
- WebQueryBaseURL=<Discoverer URL>
- EnableWebqueryRun=<0 or 1>

Note: The EnableWebqueryRun preference enables you to turn the Discoverer response on or off when a query is run in Microsoft Excel.

For more information about preferences, see Chapter 10, "Managing OracleBI Discoverer preferences".

Notes

- If export to Web Query is enabled in Discoverer, when Discoverer end users export worksheets they will see the Web Query option (i.e. Web Query for Microsoft Excel (*.iqy)) in the list of export types.
- If Discoverer end users open an exported file, Microsoft uses the IQY file to create an XLS file when they open the IQY file. If Discoverer end users save the exported file after the export, they get an IQY file that is converted to an XLS file when they next open the IQY in Microsoft Excel. To display a prompt to either save or open the Web Query file, Discoverer end users must do the following on their machine:
  1. Start Windows Explorer.
  2. Display the Folder Options dialog (e.g. choose Tools | Folder Options).
  3. Display the File Types tab.
  4. Select 'IQY Microsoft Excel Web Query File', then click Advanced to display the Edit File Type dialog.
  5. Select the **Confirm Open After Download** check box.
  6. Click OK to save the settings.
- Export to Microsoft Excel Web Query format is not available to users accessing Discoverer via Single Sign-On. You must disable SSO if you want Discoverer end users to be able to export to Web Query format. For more information, see Section 14.7.2.2, "How to enable and disable Single Sign-On for Discoverer".
- Due to a limitation in Microsoft Excel, when Microsoft Excel end users enter a database password or Oracle e-Business Suite password, the password is displayed in readable text rather than with asterisks.
- The maximum length for dynamic prompts in Microsoft Excel is 257 characters. When you define dynamic prompts for parameters in Discoverer Plus, do not exceed the 257 character limit.
- Graphics bars are not exported to Microsoft Excel.
- In Microsoft Excel, worksheet data is formatted as left to right using the left to right HTML tag (LTR). Microsoft Excel does not support the right to left HTML tag (RTL).
- Due to a limitation in Netscape Navigator, when you export a Discoverer worksheet to Web Query format, Netscape might not launch Microsoft Excel within the browser. In this scenario, run Microsoft Excel separately and open the exported Web Query file (*. iqy).
- If you delete a Discoverer workbook that has been exported to Web Query format while its export file is open in Microsoft Excel, Excel can continue to access the deleted workbook until the Excel session is re-started.
- Discoverer users using a public connection do not get the **Do you want to prompt Excel users for connection information?** radio button when they use the Discoverer Export Wizard. An Excel end user accessing this exported query file is always prompted for a database password. In other words, the Discoverer user must provide the public connection password to Excel end users who want to access the data.
- Due to limitations in Microsoft Excel, the exported font size for headings and data may be reduced from the original size specified in the worksheet.
- Negative numbers formatted to be displayed with angle brackets i.e. <1,234> in Discoverer will have the angle brackets missing in Excel.

6

Configuring the Discoverer Catalog and Discoverer Plus OLAP

This chapter describes how to configure the Discoverer Catalog and Discoverer Plus OLAP, and includes the following topics:

For information on Discoverer Plus OLAP, consult the following documentation:

- *Oracle Business Intelligence Discoverer Plus User's Guide*
- *Oracle Business Intelligence Discoverer Administration Guide*
- *Discoverer Plus OLAP Help system*

6.1 Overview of the Discoverer Catalog

Discoverer Plus OLAP is installed automatically when you install Discoverer Plus. Discoverer Plus OLAP depends on the Discoverer Catalog to store the objects that users need for analyzing data. The Discoverer Catalog is not installed automatically. Instead, you use Application Server Control to install and manage the Discoverer Catalog.

Note: You only need the Discoverer Catalog if you intend to use Discoverer Plus OLAP.

Hint: When end users run Discoverer Plus Relational, they use the EUL, which is described elsewhere in this guide. When they run Discoverer Plus OLAP, they do not use the EUL; rather, they use the Discoverer Catalog.

6.1.1 What is the Discoverer Catalog?

The Discoverer Catalog is a repository for storing and retrieving definitions of objects for Discoverer Plus OLAP. There is one Discoverer Catalog per database. The Discoverer Catalog can also be used by applications that are built with Oracle Business Intelligence Beans (BI Beans). With Discoverer Plus OLAP, end users store in the Discoverer Catalog objects such as workbooks, calculations, and saved selections and share objects with others who have access to the Discoverer Catalog. In a BI Beans application, a user can create a graph and store it in the Discoverer Catalog. If another user has appropriate access, that user can retrieve the graph that was stored in the Discoverer Catalog and insert the graph into a new worksheet in Discoverer Plus OLAP. Oracle Business Intelligence creates a new user on the Oracle Business Intelligence middle tier installation called D4OSYS to hold the Discoverer Catalog.

The Discoverer Catalog provides security at the object level, by allowing users and system administrators to specify privileges for certain objects. The objects are saved in the Oracle database in XML format.

Note: Do not confuse the Discoverer Catalog, which contains object definitions, with the OLAP Catalog.

6.1.2 What is the OLAP Catalog?

The OLAP Catalog defines logical multidimensional objects that can be mapped either to columns in the tables of a star or snowflake schema or to multidimensional objects in an analytic workspace. Each database instance contains only one OLAP Catalog.

An analytic workspace stores multidimensional data objects and procedures that are written in the OLAP DML. The OLAP DML is a data manipulation language that is understood by the Oracle OLAP calculation engine. The OLAP DML extends the analytic capabilities of querying languages such as SQL and the OLAP API to include forecasting, modeling, and what-if scenarios.

For more information, see *Oracle9i/10i OLAP User's Guide* or *Oracle OLAP Application Developer's Guide*.

6.1.3 What properties can objects in the Discoverer Catalog have?

The objects in the Discoverer Catalog contain numerous properties. The Name, Description, and Keywords properties can be modified by end users. The Created On, Created By, Modified On, Modified By, and Type properties cannot be modified by users. The values of these properties are assigned by Discoverer Plus OLAP.

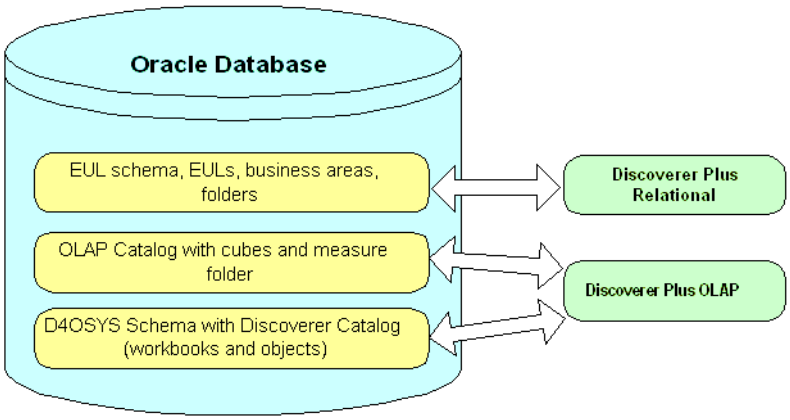
6.1.4 What is the architecture of the Discoverer Catalog?

The Discoverer Catalog exists in the Oracle database, along with the OLAP Catalog and the EUL schema. The following list describes how Discoverer Plus Relational and Discoverer Plus OLAP access these pieces:

- Discoverer Plus Relational accesses data and workbooks from the EUL. The database contains multiple EULs, business areas, and folders.
- Discoverer Plus OLAP accesses data from the OLAP Catalog and accesses workbooks and related objects from the Discoverer Catalog. The OLAP Catalog contains the Measures folder and cubes of OLAP data. The D4OSYS schema holds the Discoverer Catalog and its objects (workbooks, calculations, saved selections, and so on).

Figure 6–1 provides a visual representation of this architecture.

Figure 6–1 Discoverer Catalog architecture



6.1.5 How does the Discoverer Catalog differ from the BI Beans Catalog?

The objects in the Discoverer Catalog can be used by BI Beans applications. However, the Discoverer Catalog does differ from the BI Beans Catalog, as described in the following list:

- The BI Beans Catalog stores many kinds of objects. The Discoverer Catalog stores only folders, workbooks, saved selections, calculations, shortcuts, user preferences, and formats.
- You can have only one Discoverer Catalog per database instance, but you can have multiple BI Beans Catalogs per database instance. The Discoverer Catalog resides in its own schema called D4OSYS. The objects in the Discoverer Catalog will refer only to OLAP metadata objects in the same database instance.
- The BI Beans Catalog stores user and role information in itself. The Discoverer Catalog obtains user and role information from the database. The database users and roles must be authorized to use the Discoverer Catalog through the assignment of the D4OPUB role.
- The BI Beans Catalog does not provide user management, so application developers must manage users themselves. The Discoverer Catalog provides powerful user management features.
- BI Beans offers the use of a remote Catalog and a local, or file-based, Catalog. The Discoverer Catalog functions the same as a BI Beans remote Catalog. Searching of the Discoverer Catalog is not exposed in Discoverer Plus OLAP in the current release but is available in Discoverer Viewer.

See the BI Beans Help system for complete information on the BI Beans Catalog.

6.2 How to maintain the Discoverer Catalog

You use Application Server Control to maintain the Discoverer Catalog. You perform tasks such as installing, uninstalling, exporting, and importing the Discoverer Catalog and maintaining authorized users and roles. In Application Server Control, you do not create, delete, rename, copy, or move objects or folders for the Discoverer Catalog. Users perform these tasks in Discoverer Plus OLAP. Users also do not perform these tasks in Viewer; there, users simply save objects to the Discoverer Catalog.

6.2.1 What database privileges are assigned to the D4OSYS user?

When you install the Discoverer Catalog, you log in as a DBA user and you create the D4OSYS user, who has the following characteristics:

- Is the administrator of the Discoverer Catalog.
- Has the following roles: OLAPDBA, OLAPSYS, RESOURCE, and CONNECT.
- Authorizes Discoverer Catalog users and assigns roles to users.
- Has Full Control privileges on all folders and objects in the Discoverer Catalog.

6.2.2 How to install the Discoverer Catalog

When you install the Discoverer Catalog, a D4OSYS user is automatically created and the D4OSYS schema is populated with the schema objects that are needed by workbooks, worksheets, and other objects in Discoverer Plus OLAP.

As you log in to install the Discoverer Catalog, you are prompted to create the password for the D4OSYS user. You are the only person who knows the password, so store it in a secure location.

To install the Discoverer Catalog:

1. Use the database management tools in Application Server Control to create a tablespace into which you will install the Discoverer Catalog. You must ensure that this tablespace has the appropriate block size, as described in Section 6.2.2.1, "Checking the block size when installing the Discoverer Catalog".
2. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
3. Click Administration to display the Discoverer Administration page.
4. Click Install to display the Install Catalog page.
5. On the Install Catalog page, enter the host name, port number, and SID for the database, and the DBA user name of "system" and the appropriate password.
6. On the Provide D4OSYS Details page, type the password that you want to use for the D4OSYS user. In the Tablespace field, select the tablespace into which you want to install the Discoverer Catalog. You created this tablespace in Step 1.
7. Click Finish to display another page that prompts you to verify that you want to install the Discoverer Catalog. Click Yes to complete the installation process.

6.2.2.1 Checking the block size when installing the Discoverer Catalog

Because an analytic workspace has a recommended 8KB block size, you will likely want to use that specification for the block size of the tablespace into which you will install the Discoverer Catalog. However, in some cases, this size might not be large enough. In other cases, a size of 2KB or 4KB might be large enough, depending on various requirements such as the character set in use.

When creating a custom tablespace with an 8KB block size, specify the value 8192 for the block size value.

If the block size is not large enough, then you might see an error message such as the following one when you try to install the Discoverer Catalog:

oracle.dss.d4o.administration.D4OInstallationException: D4O-1125 Post-install verification failed, not all Discoverer Catalog objects are installed. Expected <*xx*>, found <*yy*>.

where <*xx*> represents the number of objects expected and <*yy*> represents the number of objects found. This error message indicates that during the creation of the Discoverer Catalog, an attempt was made to create an index using a key size that is larger than the maximum allowed value. The index key size is limited by the value of the block size for the database or for the tablespace, because a key value cannot span multiple blocks.

Hint: Consult your database administrator for information about the block sizes of tablespaces and of the database.

6.2.3 How to uninstall the Discoverer Catalog

When you uninstall the Catalog, the D4OSYS user and the D4OPUB role are removed from the database. As a result, all workbooks, saved selections, and other objects that were created by Discoverer Plus OLAP are also removed. If you want to save these objects, then export the Discoverer Catalog before uninstalling it.

To uninstall the Discoverer Catalog:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. Click Administration to display the Discoverer Administration page.
3. Click Uninstall to display the Uninstall Catalog page.
4. On the Uninstall Catalog page, enter the host name, port number, and SID for the database, the DBA user name and password, and the D4OSYS password.
5. Click OK to display another page that warns you that the Discoverer Catalog will be uninstalled. Click OK to complete the uninstallation process.

6.2.4 How to export a Discoverer Catalog

You can export the entire contents of the Discoverer Catalog when you want to perform a backup or to migrate to a new version. The format of the exported file is PXIF (Persistence XML Interchange File). The exported XML file contains information about folder organization, object definitions, properties, and privileges. When you export, you export the entire Discoverer Catalog.

To export the Discoverer Catalog:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. Click Administration to display the Discoverer Administration page.
3. Click Manage to display the Login to Manage Discoverer Catalog page.
4. On the Login page, enter the host name, port number, and SID for the database, and the D4OSYS password.
5. Click Login to display the Manage Catalog page.
6. Click Export Catalog to display a File Download dialog.
7. In the File Download dialog, click Save to display the Save As dialog.

8. In the Save As dialog, specify a location and file name for the exported file and click Save.

6.2.5 How to import a Discoverer Catalog

When you are migrating to a new version of the Discoverer Catalog or are restoring from a backup, you can import a Catalog. Bear the following points in mind when importing a Catalog:

- You can import only from a file that was created through the export of a Discoverer Catalog or BI Beans Catalog.
- The import process adds new objects and overwrites existing objects with the same name.
- Objects in the exported file and the imported Discoverer Catalog must have access to the same OLAP schemas and metadata.
- You import the entire contents of an exported file, assuming that the same users are authorized in the target Catalog as were authorized in the exported Catalog. You import object definitions, but you do not import user definitions. Therefore, if you import from a file that contains objects that are owned by a user who is not authorized to use the target Catalog, then that user's objects are not imported.

To import a Discoverer Catalog from a file:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. Click Administration to display the Discoverer Administration page.
3. Click Manage to display the Login to Manage Discoverer Catalog page.
4. On the Login page, enter the host name, port number, and SID for the database, and the D4OSYS password.
5. Click Login to display the Manage Catalog page.
6. Click Import Catalog to display the Import Catalog page.
7. On the Import Catalog page, specify the file name of the exported file.
8. Click Import to import the contents of the exported file.

6.3 How to maintain authorized users and roles for the Discoverer Catalog

When you authorize users and roles for the Discoverer Catalog, you do not create new users or roles. Instead, you authorize existing database users and roles to access the Discoverer Catalog. Authorized users log in to Discoverer Plus OLAP using their database user names. When you authorize users and roles for the Discoverer Catalog through Application Server Control, the users and roles are automatically assigned the D4OPUB role.

6.3.1 What are the characteristics of the folder structure of the Discoverer Catalog?

After users and roles are authorized, they can create folders within the existing folder structure of the Discoverer Catalog (using Discoverer Plus OLAP). The folder structure has the following characteristics:

- The folder structure is created automatically when you install the Discoverer Catalog.
- Folders for each user and role are created automatically within the structure when users and roles are authorized.
- The folder structure was designed so that users can quickly store and find their own objects, but the structure also allows for sharing of objects.

6.3.2 What are the folders in the structure?

The structure of the Discoverer Catalog consists of one root folder that contains the following main folders:

- **Users:** The Users folder contains a subfolder for each user or role that is authorized to use Discoverer Plus OLAP and is intended to store that user's or role's private objects. This subfolder is named with the user or role name, in all uppercase letters. Initially, each user's and role's subfolder contains no other subfolders, but users can create subfolders to suit their needs using Discoverer Plus OLAP. Each user or role has Write privileges on his or her subfolder. The D4OSYS user has Full Control privileges over the Users folder and all of its subfolders. No other users or roles have any privileges on the subfolders that belong to other users or roles.
- **Shared:** The subfolders in the Shared folder enable sharing of objects among users of Discoverer Plus OLAP. The Shared folder contains a subfolder for each user or role that is authorized to use Discoverer Plus OLAP. Initially, each user's and role's subfolder contains no other subfolders. Users can create subfolders to suit their needs using Discoverer Plus OLAP, because they have Full Control privileges for their own subfolders.

  Each user and role has List privileges on all other subfolders under the Shared folder, because the D4OPUB role has List privileges and all Discoverer Plus OLAP users have the D4OPUB role. A user can give other users and roles Read or Write privileges on the subfolders in that user's or role's Shared subfolder. The D4OSYS user also has Full Control privileges over the Shared folder and all of its subfolders.

6.3.3 What are the types of privileges for objects and folders?

The following list describes the privileges that are available for objects and folders in the Discoverer Catalog. Bear in mind that users can also have no privileges on certain objects and folders.

- Add to Folder -- Allows you to view the contents of a folder, to open a folder and the objects in it, and to create a new folder or object (applies to folders only.
- Full Control -- Allows you to change privileges on a folder or object and to create or change the folder or object.
- List -- Allows you to view the contents of a folder (applies to folders only.
- Read -- Allows you to open a folder or object.
- Write -- Allows you to create, delete, or change a folder or object.

Privileges are cumulative. That is, the higher-level privileges inherit the controls of the privileges lower in the list. For example, the Write privilege inherits the controls of Read, List, and so on.

If a certain privilege is not applicable, then the next privilege down in the list is acquired. For example, suppose you have Write privileges on a folder on which the user that is named "Sam" has List privilege (which applies only to folders). You create an object in that folder. The user "Sam" acquires the privilege below the List privilege on that object, which is no privileges, so the user "Sam" cannot even see the object.

6.3.4 How to manage privileges as the D4OSYS user

End users have Full Control privileges on all folders and objects in their /Shared/*<user-name>* folder and on the /Shared/*<role-name>* folder, if they have been assigned that role. The D4OSYS user has Full Control privileges on the /Shared folder and on the /Users folder and on all their subfolders and objects.

While the D4OSYS user has the ability to change the default privileges that are assigned to all folders and objects when the Discoverer Catalog is installed, such practice is not recommended. Similarly, users could invoke their Full Control privileges to reduce the privileges of the D4OSYS user. Such practice is strongly discouraged, because it prevents the D4OSYS user from backing up users' objects.

6.3.5 How to ensure that users can use Discoverer Plus OLAP

In order for a user to run Discoverer Plus OLAP, that user must meet the following criteria:

- Must have an account on the database on which the Discoverer Catalog is installed.
- Must have been assigned the D4OPUB role; that is, must be authorized to use Discoverer Plus OLAP on that database, as described in Section 6.3.6, "How to authorize user and role access to the Discoverer Catalog".
- Must have been authorized to use the OLAP measures that the user needs, which requires that the user meet the following criteria:
  - Has been assigned the OLAP_USER role, which is inherited by the D4OPUB role.
  - Has access to the OLAP data, which is controlled by the Oracle OLAP database administrator.

Note: You cannot use Discoverer Plus OLAP with Oracle e-Business Suite security.

In addition, you must ensure that the **Allow users to create their own connections in Discoverer Plus and Discoverer Viewer** check box is not cleared in the General Discoverer Configuration page in Application Server Control. When this box is cleared, private connections are not available. Discoverer Plus OLAP requires private connections, as described in Section 6.3.8, "How to use private versus public connections when accessing OLAP data".

For additional information on assisting end users, see Section 6.5, "What information do I provide to end users?"

6.3.6 How to authorize user and role access to the Discoverer Catalog

You authorize users and roles to log in to Discoverer Plus OLAP on a particular database. When you authorize a user or role directly, that user or role is immediately assigned the D4OPUB role and folders are created in the Users and Shared folders with the appropriate privileges. If you assign the D4OPUB role indirectly through another role, then the user and folders are added to the Discoverer Catalog when the user next connects.

To authorize a user or role to access the Discoverer Catalog:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. Click Administration to display the Discoverer Administration page.
3. Click Manage to display the Login to Manage Discoverer Catalog page.
4. On the Login page, enter the host name, port number, and SID for the database, and the D4OSYS password.
5. Click Authorize Users and Roles to display the Authorize Users page.
6. In the Available Users/Roles list, select one or more users or roles that you want to authorize.
7. Click Move to move the selected items from the Available Users/Roles list to the Selected Users/Roles list.
8. Click Apply to authorize the users or roles to access the Discoverer Catalog.

6.3.7 How to revoke user or role access to the Discoverer Catalog

When you revoke access, the following steps are performed:

- The D4OPUB role is removed from that user or role.
- All privileges that have been assigned to that user or role are removed.
- All user-related properties (such as Created On and Created By) are updated to refer to the D4OSYS user. None of the objects that the revoked user or role created are deleted.

The access rights of the D4OSYS user cannot be revoked. The D4OSYS user is removed only when the Discoverer Catalog is uninstalled.

To revoke user or role access:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. Click Administration to display the Discoverer Administration page.
3. Click Manage to display the Login to Manage Discoverer Catalog page.
4. On the Login page, enter the host name, port number, and SID for the database, and the D4OSYS password.
5. Click Authorize Users and Roles to display the Authorize Users page.
6. In the Selected Users/Roles list, select one or more users or roles whose access you want to revoke.
7. Click Remove to move the selected items from the Selected Users/Roles list to the Available Users/Roles list.
8. Click Apply to revoke the user's or role's access to the Discoverer Catalog.

6.3.8 How to use private versus public connections when accessing OLAP data

When users connect to a Discoverer component, they use either a public or a private connection. End users can also login directly without using or creating a

connection.The following list describes how users work with public and private connections when connecting to OLAP data:

- Private connections: Users must use a private connection when connecting to Discoverer Plus OLAP. They can also use a private connection when connecting to Discoverer Viewer and Discoverer Portlet Provider for accessing OLAP data. With private connections, users can use Single Sign-On or not. Private connections that are not created with Single Sign-On active require users to re-enter their password.
- Public connections: You can use Application Server Control to create public connections for users who want to access OLAP data through Discoverer Viewer and Discoverer Portlet Provider.

For more information on public and private connections, see Chapter 4, "Managing OracleBI Discoverer connections"

6.4 How to customize the look and fee of Discoverer Plus OLAP

You use Application Server Control to customize the look and feel of Discoverer Plus OLAP, using the same page on which you configure Discoverer Plus Relational. You can configure the following items for Discoverer Plus OLAP:

- The logo that is displayed as a small icon on the right-hand side of the toolbar in Discoverer Plus OLAP. You can specify a logo for your company.
- The look and feel for Discoverer Plus OLAP.
- The Java Plug-in for launching Discoverer Plus OLAP.

To configure these items for Discoverer Plus OLAP:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. Click the Discoverer Plus component to display the Discoverer Plus page.
3. Click Logo, Look And Feel, or Java plug-in to display the Discoverer Plus Configuration page.
4. Use the fields on this page to specify configuration settings.
5. Click OK to apply your changes.

6.5 What information do I provide to end users?

After you have configured the Discoverer Catalog and Discoverer Plus OLAP, you should ensure that users have the following information, which enables them to use Discoverer Plus OLAP:

- The URL to the Discoverer Connections page. Users supply information on this page to connect to Discoverer Plus OLAP, such as the user name and password.

  For more information about the Discoverer Connections page, see Chapter 4, "Managing OracleBI Discoverer connections".
- The information that users enter in the Database field of the Discoverer Connections page. They must enter the following string: *<host>*:*<port>*:*<SID>*.
- The version of Microsoft Excel that worksheet consumers must have to view a worksheet exported from Discoverer Plus OLAP. Worksheet consumers must have Excel 2000 or later.

- The information about the configuration diagnostic utility, if users have trouble connecting to the database when they run Discoverer Plus OLAP. See Section 6.6, "What is the configuration diagnostic utility for Discoverer Plus OLAP?" for information about this utility.

Information for end users about the Discoverer Catalog is located in the Discoverer Plus OLAP Help system.

6.6 What is the configuration diagnostic utility for Discoverer Plus OLAP?

Discoverer Plus OLAP includes a utility that examines and reports on the configuration of the OLAP environment. Its purpose is to gather information about the configuration that will help you and Oracle Support Services diagnose problems that end users experience when running Discoverer Plus OLAP.

For complete information on how users run the diagnostic utility, consult the Help for Discoverer Plus OLAP. Users simply click a button in an error dialog or choose a menu option. The dialog box that is displayed provides basic output from the utility and allows end users to run another test that provides more detailed output. The Help topics instruct users to share the output with their database administrator if they need assistance.

6.6.1 Forms of output from the utility

The utility produces two forms of output, as described in the following list:

- Output that is written directly to the dialog in which users run the utility -- For details, see Section 6.6.2, "Description of output from the utility".
- An XML file -- Users name and store this file as they like, after running the utility and viewing the results in the dialog. The file contains the output that was displayed in the dialog, including version information for various components, the detailed stack trace of any errors, and a list of the folders, measures, and dimensions that were found in the database (that is, the metadata). You can send this file to Oracle Support Services as an e-mail attachment to get help in diagnosing problems.

6.6.2 Description of output from the utility

The following labels describe the items that the utility displays in the dialog and in the XML file. These labels are listed according to the sequence in which the utility performs the various checks. Many items relate to version numbers. See the installation guide that you used when installing Discoverer for information on the appropriate version numbers.

6.6.2.1 JDK version

The version number of the JDK that is being used, such as 1.4.2.

6.6.2.2 BI Beans internal version

The internal version number of BI Beans that is installed.

6.6.2.3 Discoverer Plus OLAP version

The internal version number of the Discoverer server that is installed.

6.6.2.4 Discoverer version

The internal version number of the Discoverer Plus component that is installed.

6.6.2.5 Connect to database

Whether the utility was able to establish a database connection. If a connection was established, then the result is "Successful." Otherwise, the result is "Unsuccessful." If the utility cannot connect to the database, then you can:

- Examine the errors that are shown in the dialog for more information.
- Verify that all the connection information (such as user name and password) is correct.
- Verify that the database is running and accepting connections.

6.6.2.6 JDBC driver version

The version of the JDBC driver that is being used.

6.6.2.7 JDBC JAR file location

The full path name to the directory that contains the JDBC driver JAR file.

6.6.2.8 Database version

The version of the Oracle database to which Discoverer Plus OLAP is connected.

6.6.2.9 OLAP Catalog version, OLAP AW Engine version, OLAP API Server version

The versions for various OLAP components. The returned values might not exactly match the "Database version," due to database patch releases. Under certain circumstances, these versions are returned as "NA," which is not a problem that you must resolve.

6.6.2.10 BI Beans Catalog version

The internal version of the BI Beans Catalog that is installed. If the BI Beans Catalog is not installed, then this value is "NA; not installed in *schema-name*."

6.6.2.11 Discoverer Catalog version

The internal version of the Discoverer Catalog that is installed. If the Discoverer Catalog is not installed, then this value is "NA; not installed in *schema-name*." Discoverer Plus OLAP requires that the Discoverer Catalog be installed.

6.6.2.12 Authorized for Discoverer Plus OLAP

Whether the user who is running the utility is authorized to run Discoverer Plus OLAP.

6.6.2.13 OLAP API JAR file version

The version of the OLAP API client JAR file.

6.6.2.14 OLAP API JAR file location

The full path to the directory in the user's installation that contains the OLAP API client JAR files.

6.6.2.15 Load OLAP API metadata

Whether the utility was able to load the metadata from the database. If the metadata was loaded, then the result is "Successful." Otherwise, the result is "Unsuccessful."

The database administrator must define appropriate metadata in the Oracle database to support business intelligence applications. For information about defining OLAP metadata, see *Oracle9i OLAP User's Guide* or *Oracle OLAP Application Developer's Guide*.

If the metadata was not loaded, then verify that the metadata is correct. If you continue to have problems, then consult the OLAP forum on Oracle Technology Network or contact Oracle Support Services.

6.6.2.16 Number of metadata folders

The number of folders that were detected in the metadata from the database.

6.6.2.17 Number of metadata measures

The number of measures that were detected in the metadata from the database.

6.6.2.18 Number of metadata dimensions

The number of dimensions that were detected in the metadata from the database.

6.6.2.19 Metadata description

The full description of all the metadata from the database.

6.6.2.20 Error message description

If any errors occurred, then brief information about them is displayed at the appropriate location in the output in the dialog. For example, if the user entered an incorrect name or password, then information to this effect is noted immediately after the "Connect to database" label and no further output is included. The XML file of the output includes more detailed information than is provided in the dialog output.

6.7 URL parameters for the Discoverer Plus OLAP Servlet

Table 6–1, " Parameters for Discoverer Plus OLAP", describes the URL parameters that you can use to start Discoverer Plus OLAP.

Note: For an example of using URL parameters to start Discoverer Plus OLAP, see Section 13.5.6, "Example 6: Starting Discoverer Plus OLAP".

Table 6–1 Parameters for Discoverer Plus OLAP

Parameter and Values	Description	Example
autoconnect=yes or no	Specifies whether to automatically connect when all parameters are present. Yes is the default.	autoconnect=no

Table 6–1 (Cont.) Parameters for Discoverer Plus OLAP

Parameter and Values	Description	Example
brandimage=*<logo file name>*	Specifies that you display a logo in the top right-hand corner of the Discoverer Plus OLAP screen. You can reference this file in two ways: ▪ Using a path that is relative to the location of the d4o.jar file on the server. ▪ Using an absolute path.	brandimage=http://server.com:7777/discoverer/common/mylogo.gif
framedisplaystyle= separate or embedded	Specifies how to launch the Discoverer main window. ▪ use 'separate' to launch Discoverer's main window as a separate frame from the browser (i.e. from the Discoverer Connections list). The browser window contains a Discoverer image and must remain open while Discoverer is being used. ▪ use 'embedded' to launch Discoverer's main window within the current browser window.	framedisplaystyle=separate
helpset=*<path>*/*<locale>*/*<HS file>*	Specifies a help set location that is different from the default Discoverer Plus OLAP help set, where: *<path>* = the directory that contains the help set *<locale>* = the two-character locale *<HS file>* = the name of the help set file, such as myhelp.hs **Note:** The help set must be in sub-directories that are named by the standard two-character locale.	helpset=mypath/en/myhelp.hs
locale=*<language[_country][_variant]>*	Specifies the language (and optionally the country and variant) that is used by Discoverer Plus OLAP. This parameter overrides the browser's language setting on the end user's client machine. **Hint:** Use ISO codes to specify the language, country, and variant.	locale=es_ES In this example, the language is Spanish and the country is Spain.

Table 6–1 (Cont.) Parameters for Discoverer Plus OLAP

Parameter and Values	Description	Example
loglevel=<*type*>	Specifies the level of log messages to display for end users. The values for <*type*> are described in the following list: none = No messages (default) error = Error messages warning = Warning messages informational = Informational messages trace = Trace messages	loglevel=error
lookandfeelname=<*type*>	Specifies a browser look and feel. The values for <*type*> are system, metal, windows, motif, oracle, and plastic. You can also specify a custom LAF using the fully qualified Java class of the LAF (for example, javax.swing.plaf.metal.MetalLookAndFeel). For more information about specifying a custom LAF on the Discoverer middle tier, see Section 9.1.4, "How to define a custom LAF for Discoverer Plus Relational and Discoverer Plus OLAP".	lookandfeelname=system
password=<*string*>	Specifies a database password to authenticate the user name that is used to connect to Discoverer Plus OLAP. **Note:** If you do not specify a user name, password, host name, port, number, and SID, then the Discoverer end user is prompted to enter the missing login information.	password=37282732
sheet=<*worksheetname*>	Specifies the name of the worksheet to open by default. **Note**: If you use the sheet parameter more than once in the URL, Discoverer Plus OLAP opens the last one.	sheet=Sales+Detail+Sheet
username=<*database user name*>	Specifies a database user name with which to connect to Discoverer Plus OLAP. **Note:** If you do not specify a user name, password, host name, port, number, and SID, then the Discoverer end user is prompted to enter the missing login information.	username=video_user
windowheight=<*number of pixels*>	Specifies the height in pixels of the Discoverer Plus OLAP application frame. If you do not use this parameter, then Discoverer Plus OLAP uses a default value.	windowheight=600

Table 6–1 (Cont.) Parameters for Discoverer Plus OLAP

Parameter and Values	Description	Example
windowwidth=<*number of pixels*>	Specifies the width in pixels of the Discoverer Plus OLAP application frame. If you do not use this parameter, then Discoverer Plus OLAP uses a default value.	windowwidth=800
workbookname= <*workbookname*>	Specifies the name of the workbook that you want users to display by default.	workbookname= Performance+Tracker

6.8 URL parameters for an OLAP worksheet in Discoverer Viewer

When you use URL parameters to access OLAP worksheets in Discoverer Viewer, in most cases you can use the same URL parameters that you use with relational worksheets (for more information, see Section 13.7, "List of URL parameters common to Discoverer Plus and Viewer" and Section 13.9, "List of URL parameters specific to Discoverer Viewer"). However, the URL parameter for specifying an OLAP worksheet in Discoverer Viewer is different, as described in Table 6–2, " Parameters for an OLAP worksheet in Discoverer Viewer".

Table 6–2 Parameters for an OLAP worksheet in Discoverer Viewer

Parameter and Values	Description	Example
worksheetname=<*name of folder, name of workbook, name of worksheet*>	Specifies the folder location, workbook name, and name of the worksheet to open. You must prefix folder names, workbook names, and worksheet names with a forward slash character '/' (or the URL encoded forward slash character value '%2F'). For example, to specify a worksheet called Export 1 in Workbook A stored in the Users/Jchan/ area in the Discoverer Catalog, enter &worksheetname=Users/JChan/ Workbook+A/Export+1 **Note**: Do not prefix the root folder name with a forward slash character. For example, specify &worksheetname=Users, not &worksheetname=/Users. For example, to open a worksheet called Export 1 in a workbook called Workbook A that is stored in the Users/JChan/ folder in the Discoverer Catalog, you might use: http://<host.domain>:<HTTP port>/discoverer/viewer?cn=cf_ a102&worksheetname=Users/JC han/Workbook+A/Export+1	worksheetname=Users/JChan /Workbook+A/Export+1

Note: For an example of using URL parameters to start Discoverer Viewer, see Section 13.5.9, "Example 9: Opening an OLAP worksheet in Discoverer Viewer".

7

Installing OracleBI Discoverer in a multiple machine environment

Note: This chapter only applies to Discoverer Plus and Discoverer Viewer. For more information about configuring Discoverer Plus OLAP, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".

This chapter explains how to configure OracleBI Discoverer in a multiple machine environment, and contains the following topics:

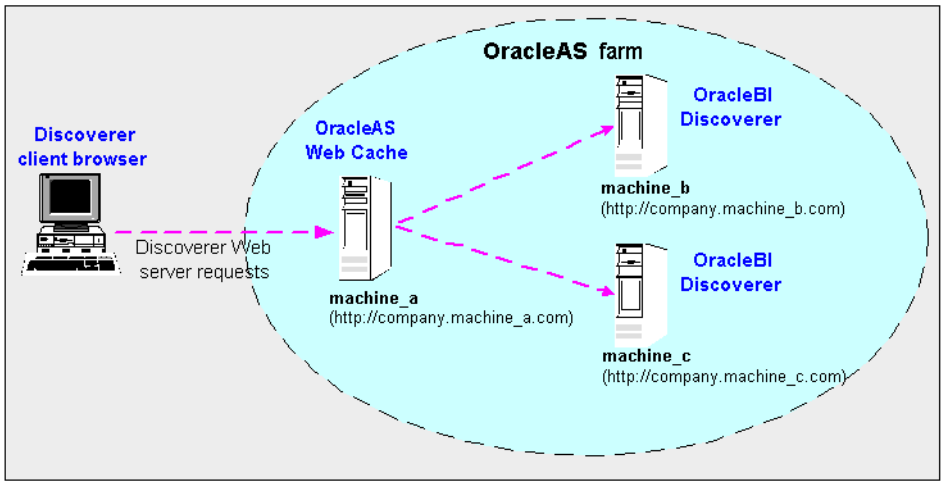
7.1 What is a multiple machine Discoverer environment?

A multiple machine Discoverer environment is a Discoverer deployment that contains two or more machines running an OracleBI Discoverer installation.

A typical multiple machine Discoverer environment uses a standard commercial hardware router to distribute Discoverer Web traffic to multiple Discoverer middle tier machines. This is commonly known as load balancing.

However, you can also provide load balancing using OracleAS Web Cache as a proxy server to distribute Discoverer Web traffic to other Discoverer middle tier machines.

Load balancing improves OracleBI Discoverer's performance, scalability, and availability.



In the diagram above, OracleAS Web Cache on machine_a (URL http://company.machine_a.com) distributes Discoverer Web traffic to machine_b (http://company.machine_b.com) and machine_c (http://company.machine_c.com). In other words, you can have a single Discoverer URL for multiple Discoverer middle tier machines.

For more information about using OracleAS Web Cache to load balance, see Section 7.5.2, "How to configure OracleAS Web Cache for load balancing".

Notes

- There are two other types of multiple machine environment:
  - load balanced with high availability - this configuration provides load balancing with additional support for failure detection and failover of OracleAS Web Cache servers. For more information about implementing high availability, see *Oracle Application Server Web Cache Administration and Deployment Guide*.
  - non-load balanced - this configuration is essentially a number of unconnected OracleBI Discoverer middle tier machines that operate independently. In other words, you have a different Discoverer URL for each machine. For example, you might deploy Discoverer Plus on one machine and Discoverer Viewer on another machine.
- When you deploy OracleBI Discoverer across multiple machines with load balancing, you also provide load balancing for other OracleAS components on those machines. For example, you can also deploy OracleAS Portal with load balancing.
- To provide a consistent Discoverer interface to end users, when you deploy OracleBI Discoverer across multiple machines with load balancing, make sure that each machine has the same configuration settings (e.g. user interface customizations, timeouts).

7.2 About Oracle Business Intelligence installations

Before you can deploy OracleBI Discoverer on multiple machines, you need a basic understanding of OracleBI Discoverer installations (if you are already familiar with Oracle Business Intelligence installations, skip to Section 7.3, "What are the

pre-requisites for using OracleAS Web Cache to provide load balancing for OracleBI Discoverer").

An OracleBI Discoverer installation can be one of the following:

- a standalone Oracle Business Intelligence installation
- an Oracle Business Intelligence installation associated with an OracleAS Infrastructure (e.g. an OracleAS Business Intelligence and Forms type installation of Discoverer)

For more information, see Section 2.1, "About installing Oracle Business Intelligence".

A typical Oracle Business Intelligence installation comprises the following:

- one OracleAS infrastructure installation, containing the underlying database, directory server, and management servers necessary for OracleAS middle tier components

  Note: There is one OracleAS infrastructure installation per OracleAS farm.
- one or more Oracle Business Intelligence installations, one per machine
- (optional) one OracleAS J2EE and Web Cache type installation on one machine, to enable OracleAS Web Cache to act as a proxy machine (i.e. if you are not using a standard commercial hardware router or load balancer)

You can have more than one middle tier installation on one machine. For example, you might have one OracleAS infrastructure installation and one Oracle Business Intelligence standalone CD installation on the same machine, but in different Oracle homes. For more information, see Section 7.2.1, "About installing Discoverer on a single machine".

Notes

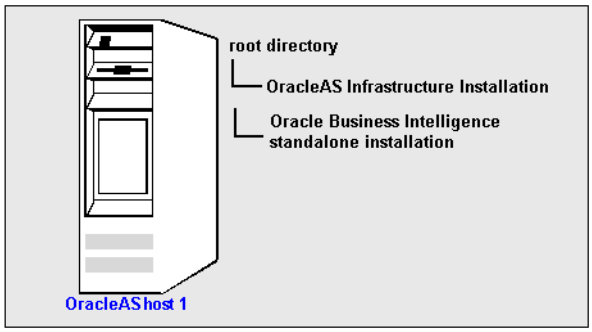
- A machine can only have one OracleAS infrastructure installation.
- A machine can have multiple Oracle Business Intelligence standalone installations.

7.2.1 About installing Discoverer on a single machine

When Discoverer is deployed on a single machine, the Oracle Business Intelligence standalone installation is located in its own Oracle home.

If the Oracle Business Intelligence installation is associated with an OracleAS infrastructure, the infrastructure installation is installed in a separate Oracle home (see figure below).

Figure 7–1 Installing OracleBI Discoverer on a single machine



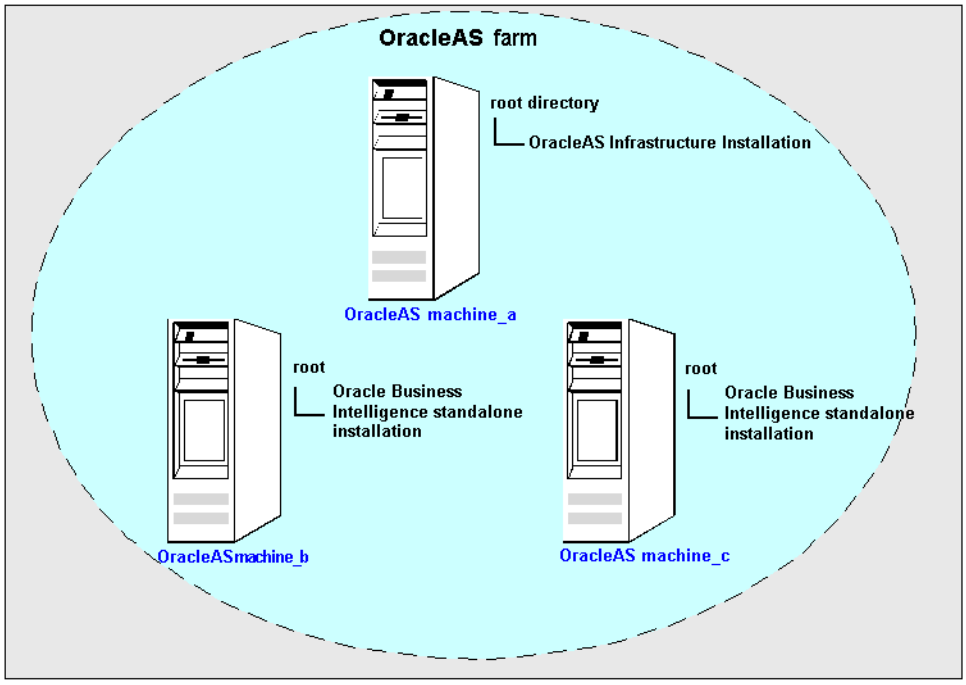
7.2.2 About installing Discoverer on multiple machines

When Discoverer is deployed on multiple machines, the OracleAS infrastructure installation is typically installed on one machine, and one or more Oracle Business Intelligence standalone installations are installed on other machines. These standalone components are typically linked together in an OracleAS farm.

Note: An OracleAS farm is a collection of Oracle installations (e.g. OracleBI installations) that share the same OracleAS infrastructure installation.

In the diagram below, OracleAS machine_a contains the OracleAS infrastructure installation. OracleAS machine_b and OracleAS machine_c contain Oracle Business Intelligence standalone installations. The three machines are linked together in an OracleAS farm.

Figure 7–2 Installing OracleBI Discoverer on multiple machines



You might use OracleAS Web Cache as a proxy server to distribute Discoverer Web server requests to other Discoverer middle tier machines in an OracleAS farm. For more information about using OracleAS Web Cache to provide load balancing, see Section 7.5.2, "How to configure OracleAS Web Cache for load balancing".

7.2.3 About using Application Server Control to manage multiple machines

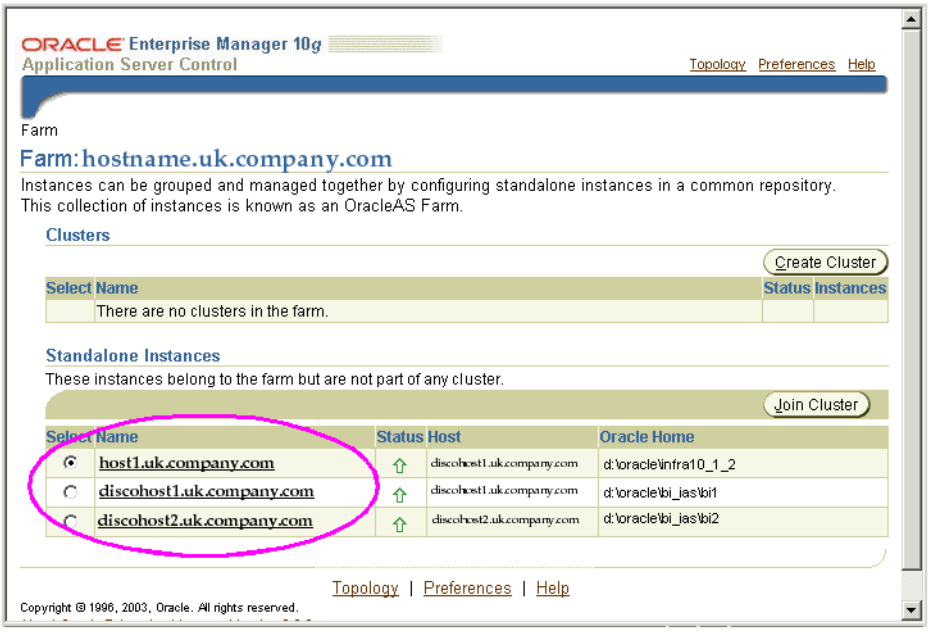
When you install an Oracle Business Intelligence installation on more than one machine, you can link installations together in an OracleAS farm.

For example, you might have installed the following:

- one OracleAS infrastructure installation on host 1 (e.g. in d:\oracle\infra10_1_2)
- one Oracle Business Intelligence standalone installation on host 1 (e.g. in d:\oracle\bi_ias\bi1)

- one Oracle Business Intelligence standalone installation on host 2 (e.g. in d:\oracle\bi_ias\bi2)

You use Application Server Control to manage OracleAS farms. The screen below shows how the above scenario is represented in Application Server Control. Each machine is represented as a row in the Standalone Instances table.



Notes

- For more information about using Application Server Control to manage OracleAS farms, refer to the *Application Server Control Help*.
- When OracleBI Discoverer is installed on multiple machines, the Discoverer Preferences component is installed on each machine, but only one Preferences component is used (for more information, see Section 1.8.2.2, "What is the Discoverer Preferences component?" and Section 7.6, "About the Discoverer Preferences component in a multiple machine environment").

7.3 What are the pre-requisites for using OracleAS Web Cache to provide load balancing for OracleBI Discoverer

Before you can configure OracleBI Discoverer for load balancing using OracleAS Web Cache, you must have the following installed:

- two or more Oracle Business Intelligence installations on different machines
- OracleAS Web Cache installed on one machine

  Note: OracleAS Web Cache is included in both an Oracle Business Intelligence installation and an OracleAS J2EE and Web Cache type installation.

Notes

- It is recommended that you put the OracleBI Discoverer installations that you want to load balance in the same OracleAS farm.

7.4 About using OracleAS Web Cache Manager to configure load balancing for OracleBI Discoverer

You can use OracleAS Web Cache Manager to configure load balancing for OracleBI Discoverer across multiple machines. For example, you might have the following:

- three machines in an OracleAS farm - machine_a, machine_b, and machine_c
- OracleAS Web Cache is running on machine_a
- OracleBI Discoverer running on machine_b and machine_c

Configuring OracleAS Web Cache for load balancing involves the following tasks:

- Choose which machine you want to specify as the proxy machine and start OracleAS Web Cache Manager on that machine.
- Define the OracleBI Discoverer middle tier machines that you want to use to provide load balancing (using the Origin Servers page in OracleAS Web Cache Manager). For more information, see Section 7.5.2.1, "How to define the origin servers".
- Define the load balancing relationship between OracleAS Web Cache and the OracleBI Discoverer installations (using the OracleAS Web Cache Site to Server Mapping page in OracleAS Web Cache Manager). For more information, see Section 7.5.2.2, "How to specify the site to server mapping".
- Enable the Default Session Binding option (using the Session Binding page in OracleAS Web Cache Manager). For more information, see Section 7.5.2.3, "How to specify the session binding value".
- Restart OracleAS Web Cache (using the Cache Operations page in OracleAS Web Cache Manager).

For more information about using OracleAS Web Cache Manager to provide load balancing with OracleBI Discoverer, see Section 7.5.2, "How to configure OracleAS Web Cache for load balancing".

7.5 How to deploy OracleBI Discoverer with load balancing using OracleAS Web Cache

You deploy OracleBI Discoverer with load balancing to increase the number of supported Discoverer end users and improve Discoverer performance.

To deploy OracleBI Discoverer with load balancing using OracleAS, do the following:

1. If you have not already created an OracleAS farm, use Application Server Control to create a new farm (for more information, see *Oracle Enterprise Manager Help*).
2. Use Application Server Control to add OracleBI Discoverer installations to the farm (for more information, see *Application Server Control Help*).

   Hint: Make sure that you can run Discoverer directly from a machine before trying to load balance to that machine. For example, if you want to load balance OracleBI Discoverer installed on machine_b, start a Web browser and enter the Discoverer URL for that machine (e.g. http://machine_b:80/discoverer/viewer) to make sure that Discoverer works correctly.
3. Start OracleAS Web Cache Manager on the machine that you want to specify as the proxy machine (for more information, see Section 7.5.1, "How to start OracleAS Web Cache Manager").

4. Configure OracleAS Web Cache Manager to act as a proxy machine to direct Discoverer Web server requests to other Discoverer middle tier machines (for more information, see Section 7.5.2, "How to configure OracleAS Web Cache for load balancing").
5. Confirm that Discoverer Web traffic is being routed correctly (for more information, see Section 7.5.3, "How to verify that OracleAS Web Cache is configured correctly for load balancing").
6. (optional) You might want to deploy a single centralized Discoverer Preferences component (for more information, see Section 7.6, "About the Discoverer Preferences component in a multiple machine environment").
7. (optional) You might need to make sure that the tnsnames.ora file on each machine contains the same database names and aliases information (for more information, see Section 7.7, "About configuring the tnsnames.ora file in a multiple machine environment").

7.5.1 How to start OracleAS Web Cache Manager

You start OracleAS Web Cache Manager on a machine when you want to configure and monitor OracleAS Web Cache on that machine. For example, you might want to configure a machine as a proxy machine to route OracleBI Discoverer Web traffic to multiple machines.

To start OracleAS Web Cache Manager:

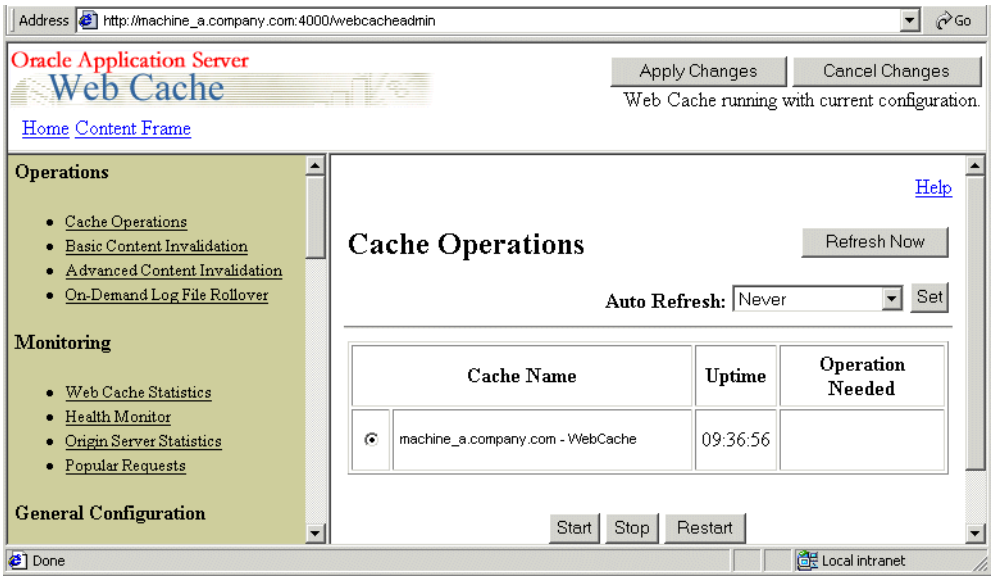
1. Start a Web browser.
2. Enter the OracleAS Web Cache Manager URL for the machine on which you are running OracleAS Web Cache using the fully qualified host name and domain used by your installation.

   For example:

   http://<*host.domain*>:4000/Webcacheadmin

   Note: The default port number for OracleAS Web Cache is 4000. You can obtain the port number from the OracleAS Ports page (for more information, see Section 5.8, "How to list ports used by Oracle Application Server").

   The Enter Network Password page is displayed.
3. Enter an OracleAS Web Cache Manager user name (i.e. 'administrator' or a user name with administrator privileges) and network password to display the OracleAS Web Cache - Cache Operations page.



You can now configure OracleAS Web Cache for load balancing (for more information, see Section 7.5.2, "How to configure OracleAS Web Cache for load balancing").

7.5.2 How to configure OracleAS Web Cache for load balancing

You can use OracleAS Web Cache Manager to configure load balancing for Web applications such as OracleBI Discoverer. OracleAS Web Cache Manager has pages for each aspect of OracleAS Web Cache that you can configure.

For example, the Origin Servers page in the Origin Servers, Sites, and Load Balancing area enables you to specify which machines you want to use to provide load balancing for a Web application.

Note: Before you start, make sure you have the necessary components installed (for more information, see Section 7.3, "What are the pre-requisites for using OracleAS Web Cache to provide load balancing for OracleBI Discoverer").

To configure OracleAS Web Cache for load balancing:

1. Specify the origin servers (for more information, see Section 7.5.2.1, "How to define the origin servers").
2. Specify the site to server mapping (for more information, see Section 7.5.2.2, "How to specify the site to server mapping").
3. Specify the session binding value (for more information, see Section 7.5.2.3, "How to specify the session binding value").

Notes

- To change the capacity value of load balanced machines:
  - **a.** Display the Origin Servers page.
  - **b.** In the **Select** column, select the radio button next to the machine(s) on which you want to load balance.
  - **c.** Click Edit Selected to display the Edit Application Web Server page.
  - **d.** Change the value in the **Capacity** field to a smaller value.

e. Click Submit.

f. Click Apply Changes.

g. Click Restart.

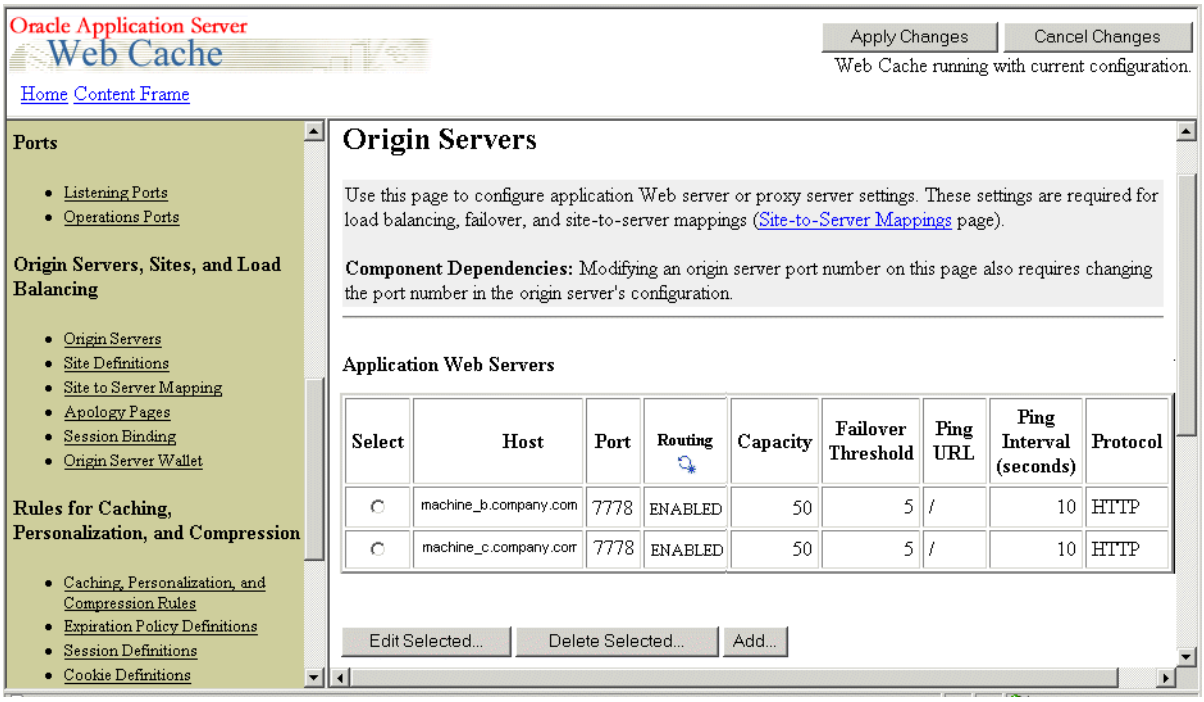
- For more information about using OracleAS Web Cache Manager, see *Oracle Application Server Web Cache Administration and Deployment Guide*.

7.5.2.1 How to define the origin servers

You define the Oracle Business Intelligence machines that you want to load balance as origin servers.

To define the origin servers:

1. Start OracleAS Web Cache Manager (for more information, see Section 7.5.1, "How to start OracleAS Web Cache Manager").
2. Select the **Origin Servers** link in the Origin Servers, Sites, and Load Balancing area of the Navigator Pane to display the Origin Servers page.



Note: You select the Origin Servers link in OracleAS Web Cache Manager, not Application Server Control.

You use the Origin Servers page to specify and manage the OracleAS machines that you want to use to provide load balancing. For example, if you want to use OracleBI Discoverer installed on machine_b and machine_c, you need to add entries for machine_b and machine_c to the Application Web Servers table.

3. For each OracleBI Discoverer middle tier machine on which you want to load balance, do the following:

   a. Click Add... beneath the Application Web Servers table to display the Add Application Web Server page.

b. Enter the fully qualified hostname of the machine (e.g. http://machine_b.company.com) in the **Hostname** field.

c. Enter the Web Cache HTTP/HTTPS Listen port number of the machine into the **Port** field:

Hint: To find out the Web Cache HTTP/HTTPS Listen port number, display the OracleAS Ports page on the Oracle Business Intelligence machine and obtain the Web Cache HTTP Listen port number. For more information, see Section 5.8, "How to list ports used by Oracle Application Server".

d. Type `100` into the **Capacity** field (recommended setting).

Note: This value specifies the maximum number of concurrent connections the origin server can accept. For more information about specifying the capacity value, see *Oracle Application Server Web Cache Administration and Deployment Guide.*

e. Type `5` into the **Failover Threshold** field (recommended setting).

f. Type `/` in the **Ping URL** field (recommended setting).

g. Type `10` in the **Ping Interval** field (recommended setting).

h. Select the communication protocol used by the machine from the **Protocol** drop down list.

Note: If you are using the OracleAS Web Cache HTTP Listen (non-SSL) port, select HTTP. If you are using the OracleAS Web Cache HTTPS Listen (SSL) port, select HTTPS.

i. Click Submit to save the details and display the Origin Servers page.

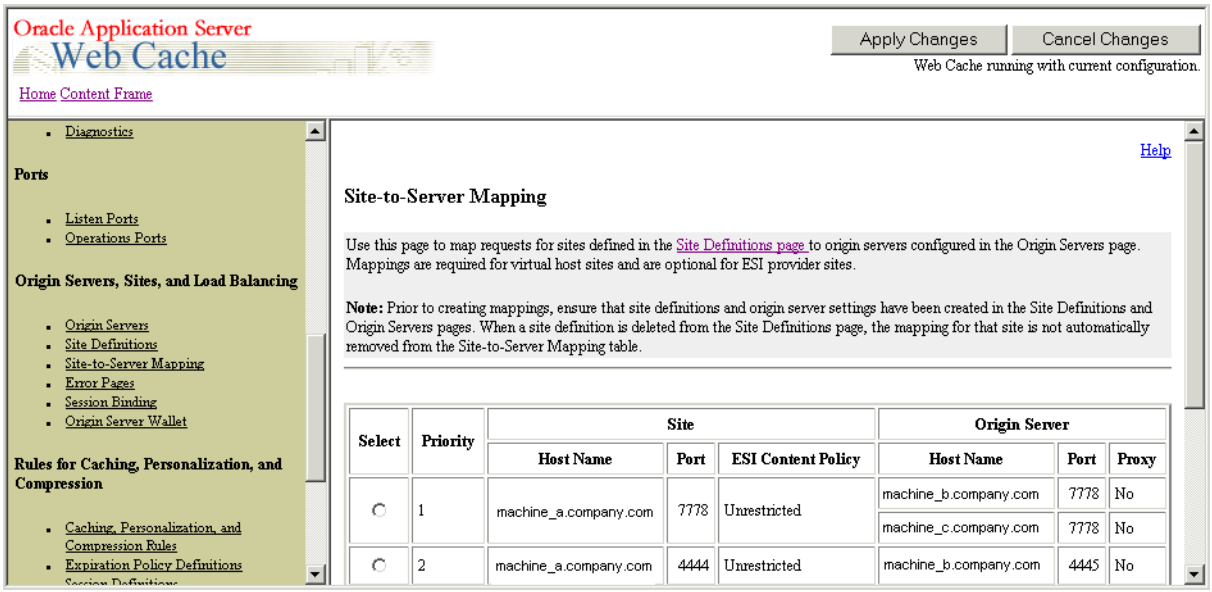
7.5.2.2 How to specify the site to server mapping

Having defined the Oracle Business Intelligence machines that you want to load balance, you now define the load balancing relationship between OracleAS Web Cache and the Oracle Business Intelligence machines. For example, you might want to

specify that machine_a directs Discoverer Web server requests to machine_b and machine_c.

To specify the site to server mapping:

1. Select the **Site to Server Mapping** link in the Origin Servers, Sites, and Load Balancing area of the Navigator Pane to display the Site to Server Mapping page.



The Site to Server Mapping page has an entry for the machine on which you are running OracleAS Web Cache. For example, if you are running OracleAS Web Cache on machine_a, you will see a row for machine_a with default settings.

Hint: The **Port Number** field under the **Enter Site Name** area should contain the OracleAS Web Cache listening port number that is displayed on the Listening Ports page in the Ports area.

The next step is to specify which OracleBI Discoverer middle tier machines you want to load balance.

2. In the **Select** column, select the radio button next to the OracleAS Web Cache machine.
3. Click Edit Selected... to display the Edit/Add Site to Server Mapping page.

4. In the **Select Application Web Servers** area, select the check box next to each OracleBI Discoverer middle tier machine on which you want to provide load balancing.

   You should see the machines that you defined in the Application Web Servers table on the Origin Servers page.

   For example, if you have installed OracleBI Discoverer on machine_b and machine_c, select the check boxes next to machine_b and machine_c.

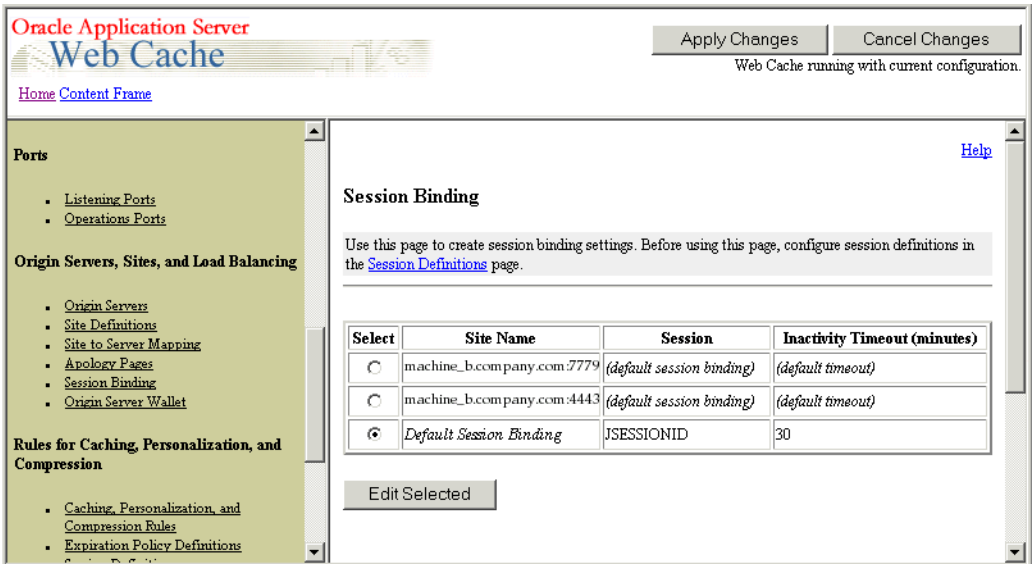
5. Click Submit to save the details and display the Site to Server Mapping page.

7.5.2.3 How to specify the session binding value

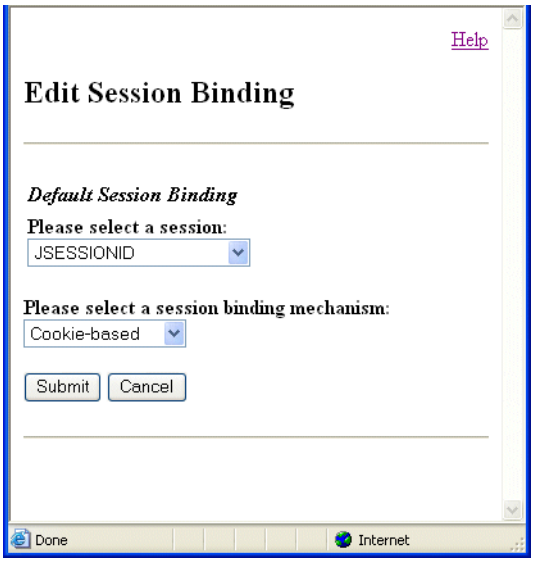
You specify the session binding value to define how a user session is bound to a particular application Web server.

To specify the session binding value:

1. Select the **Session Binding** link in the Origin Servers, Sites, and Load Balancing area of the Navigator Pane to display the Session Binding page.
2. In the **Select** column, select the radio button next to the row that contains the **Default Session Binding** option in the **Site Name** column.



3. Click Edit Selected to display the Session Binding page.



4. Select JSESSIONID from the **Default Session Binding** drop down list.
5. Select Cookie Based from the **Please select a session binding mechanism** drop down list.
6. Click Submit to save the details and display the OracleAS Web Cache page.

   The next step is to apply the changes you have made and restart OracleAS Web Cache.
7. Click Apply Changes at the top of the OracleAS Web Cache page to display the Cache Operations page.
8. Click Restart.

   When OracleAS Web Cache has restarted, the Success page is displayed.

   You can now verify that browser sessions connecting to the OracleAS Web Cache machine are routed to one of the OracleBI Discoverer middle tier machines

specified for load balancing. For more information, see Section 7.5.3, "How to verify that OracleAS Web Cache is configured correctly for load balancing".

Hint: If the changes that you apply are not accepted, you might find that the capacity that you have defined on one or more of the load balancing machines is too high. For example, when you click Restart you might get an error message similar to the following:

```
opmnctl: stopping opmn managed processes... opmnctl: starting
opmn managed processes... Request failure: 0 of 1 processes
started
```

7.5.3 How to verify that OracleAS Web Cache is configured correctly for load balancing

You can verify that OracleAS Web Cache is configured correctly for load balancing by confirming that OracleBI Discoverer Web traffic is being routed to the correct machines.

For example, you might want to confirm that Discoverer browser sessions connecting to:

http://machine_a.company.com:80/discoverer/viewer

are routed to:

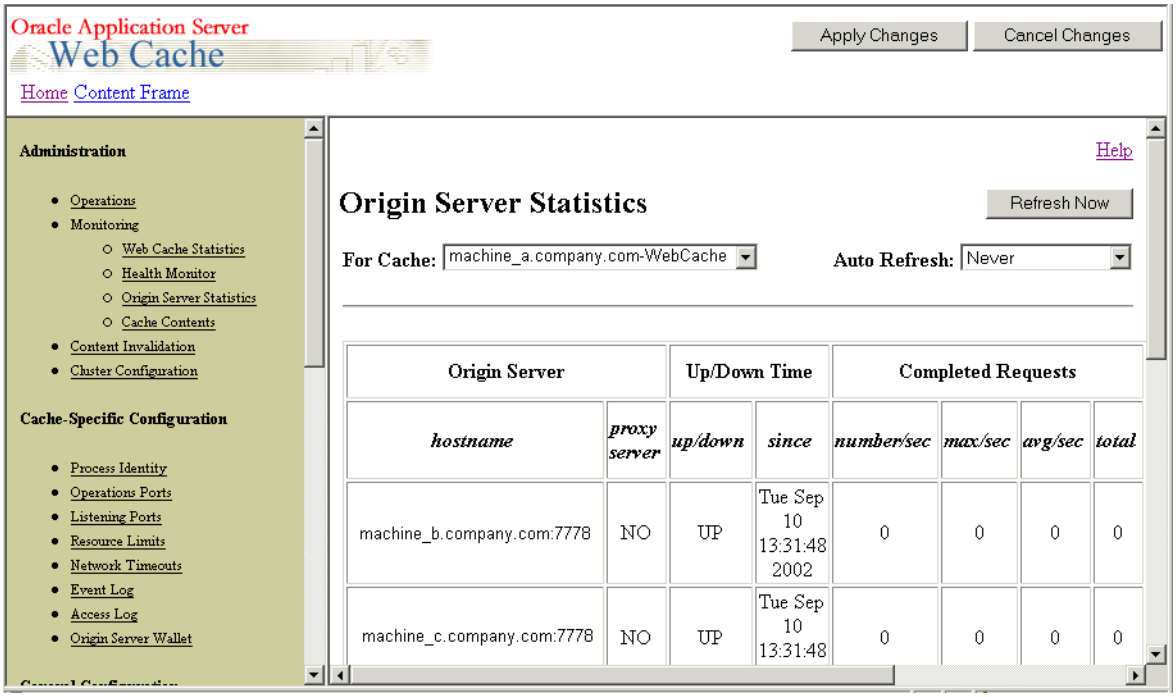
http://machine_b.company.com:80/discoverer/viewer

or:

http://machine_c.company.com:80/discoverer/viewer

To verify that OracleAS Web Cache is configured correctly for load balancing:

1. Start OracleAS Web Cache Manager (for more information, see Section 7.5.1, "How to start OracleAS Web Cache Manager").
2. Select the **Origin Server Statistics** link in the Monitoring area of the Navigator Pane to display the Origin Server Statistics page.



3. Verify the status of the OracleBI Discoverer middle tier machines to which you are distributing Discoverer Web traffic by confirming that:
   - the Origin Server Statistics table contains a row for each OracleBI Discoverer middle tier machine

     For example, if you have Discoverer sessions running on machine_a and machine_b, the Origin Server Statistics will contain a row for machine_a and a row for machine_b.
   - the application server port number is correct in the **hostname** column
   - the **up/down** setting in the **Up/Down Time** column setting is UP
   - the **Active Sessions** values should correctly reflect the number of OracleBI Discoverer sessions that are running on each machine

     For example, if you have ten Discoverer sessions running on machine_a and machine_b, the **Active Sessions-now** column might contain the value 6 for machine_a and the value 4 for machine_b (i.e. ten sessions in total).
   - the **Active Sessions** values should indicate an even distribution of server requests between the OracleBI Discoverer middle tier machines (i.e. according to how you have configured each machine in the Origin Servers page)

     For example, if you have 100 Discoverer sessions running on machine_a and machine_b, the **Active Sessions-now** column might should reflect a similar number of sessions for each machine.

Notes

- For more information about using the Origin Server Statistics page, see *OracleAS Web Cache Manager Help*.
- You can also select the **Health Monitor** link in the Monitoring area of the Navigator Pane to see a summary of server requests served by the OracleBI Discoverer middle tier machines. If OracleAS Web Cache is configured correctly for load balancing, there will be an even distribution of server requests across the OracleBI Discoverer middle tier machines.

7.6 About the Discoverer Preferences component in a multiple machine environment

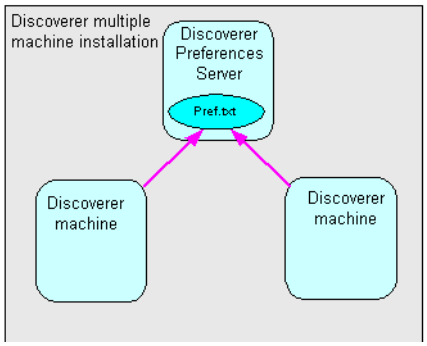
Each Discoverer installation includes a Discoverer Preferences component. The Discoverer Preferences component stores preference settings (e.g. worksheet axis style, default EUL, auto-query enable) for OracleBI Discoverer users accessing that Discoverer installation (for more information, see Section 1.8.2.2, "What is the Discoverer Preferences component?").

In a multiple machine environment, you might want to store all Discoverer end user preferences in a single location. In other words, you want each Discoverer installation to use the same Discoverer Preferences component. To store all Discoverer end user preferences in a single location, you specify a centralized Discoverer Preferences component (for more information, see Section 7.6.1, "How to specify a centralized Discoverer Preferences component").

7.6.1 How to specify a centralized Discoverer Preferences component

If you want to store all Discoverer end user preferences in a single location, you configure each Discoverer installation to use the Preferences component running on

the Preferences server machine, instead of running their own Preferences component. The diagram below shows how additional Discoverer middle tier machines reference the preferences on the Preferences server machine.



To specify a centralized Discoverer Preferences component, you:

- choose which machine you want to use as the Discoverer Preferences server machine, then find out the host name and port number of that machine (for more information, see Section 7.6.2, "How to find out the host name and port number of the Preferences server machine")
- specify a Discoverer Preference machine on the other machines (for more information, see Section 7.6.3, "Specify a Discoverer Preferences server on the other machines")
- disable the Preferences component on all machines except the Discoverer Preferences server machine (for more information, see Section 7.6.4, "How to disable the Preferences component on a machine")

Notes

- If you do not configure a central Discoverer Preferences server machine, each machine might have different preferences settings. Discoverer end users connecting to different machine might experience different Discoverer behavior according to what preference settings are specified.

7.6.2 How to find out the host name and port number of the Preferences server machine

To find out the host name and port number of the machine that you want to run the Preferences component (i.e. the machine you want to designate as the Discoverer Preferences server machine):

1. To find out the hostname, do the following:
   a. Open a command prompt on the Discoverer Preferences server machine.
   b. Type `hostname` and note down the value displayed.
2. To find out the port number of the Discoverer Preferences server machine, do the following:
   a. Open the opmn.xml file in a text editor (or XML editor).

      For more information about the location of the opmn.xml file, see Section A.1, "List of Discoverer file locations".
   b. Locate the PREFERENCE_PORT variable ID and note down the value.

For example, in the Discoverer area of the file, you might see the following line of text:

```
<variable id = "PREFERENCE_PORT" value = "16001">
```

c. Close the opmn.xml file.

You now need to modify the opmn.xml file on other machines to use the Discoverer Preferences server machine (for more information, see Section 7.6.3, "Specify a Discoverer Preferences server on the other machines").

7.6.3 Specify a Discoverer Preferences server on the other machines

Having identified the host name and port number of the machine that is going to run the Preferences component (i.e. the Discoverer Preferences server machine), you must now make sure that other machines use the Preferences component on the Discoverer Preferences server machine.

To modify the opmn.xml file of other machines to use the Discoverer Preferences server machine, do the following on every other machine in the installation:

1. Display Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. In the Home tab, select OC4J_BI_Forms in the **Name** column to display the OC4J_BI_Forms_page.
3. Display the Administration tab.
4. In the Instance Properties area, select the **Server Properties** link to display the Server Properties page.
5. Scroll down to the Command Line Options area.
6. In the **Java Options** field, append the following text to the existing text:

   ```
   -Doracle.disco.activation.preferencePort=<portno>
   -Doracle.disco.activation.preferenceHost=<hostname>
   ```

7. Restart the OC4J_BI_Forms component.

You now need to disable the Preferences component on all machines except the Discoverer Preferences server machine (for more information, see Section 7.6.4, "How to disable the Preferences component on a machine").

7.6.4 How to disable the Preferences component on a machine

When you configure Discoverer to use a single Preferences server machine in a multiple machine environment, you must disable the Preferences component on all Discoverer middle tier machines except the Preferences server machine.

To disable the Preferences component on all machines except the Preferences server machine:

1. On each machine except the Preferences server machine, open the opmn.xml file in a text editor (or XML editor).

   For more information about the location of the opmn.xml file, see Section A.1, "List of Discoverer file locations".

2. Locate the Disco_PreferenceServer entry.
3. Change the Disco_PreferenceServer entry from enabled to disabled.

   For example, you might change:

```
<ias-component id="Disco_PreferenceServer" status="enabled">
```

to:

```
<ias-component id="Disco_PreferenceServer" status="disabled">
```

4. Save the opmn.xml file.
5. Stop the Discoverer Service on that machine (for more information, see Section 5.3.1, "How to stop or restart the Discoverer Service on a machine").
6. Start the Discoverer Service on that machine (for more information, see Section 5.3.1, "How to stop or restart the Discoverer Service on a machine").

To verify that Discoverer is using a single set of preferences, run Discoverer directly from a machine and check that the preferences that are used are those on the Discoverer Preferences server machine. For example, if the Discoverer Preferences server machine is machine_a, run Discoverer Viewer directly from machine_b and machine_c (e.g. on the URL http://machine_b.us.company.com:80 or http://machine_c.us.company.com:80) and verify that Discoverer uses preferences on machine_a.

7.7 About configuring the tnsnames.ora file in a multiple machine environment

The tnsnames.ora file contains the names and aliases of all the databases that users can access using OracleBI Discoverer.

Each machine in a multiple machine Discoverer installation must have the same tnsnames.ora file or must point to a centralized tnsnames.ora file (to find out the location of this file, see Section A.1, "List of Discoverer file locations").

To make sure that the tnsnames.ora files on the different machines are the same, do one of the following:

- copy the tnsnames.ora file from one Oracle Business Intelligence middle tier machine to the same location on all of the other Oracle Business Intelligence middle tier machines, replacing the existing file
- edit the tnsnames.ora file on each Oracle Business Intelligence middle tier machine so that they all contain the same database names and aliases

Hint: Several versions of the tnsnames.ora file might exist on a machine. Make sure that you use the tnsnames.ora file in the location listed in Section A.1, "List of Discoverer file locations".

8

Using OracleBI Discoverer Viewer with OracleAS Web Cache

This chapter describes how to use OracleAS Web Cache to enhance OracleBI Discoverer Viewer performance, and contains the following topics:

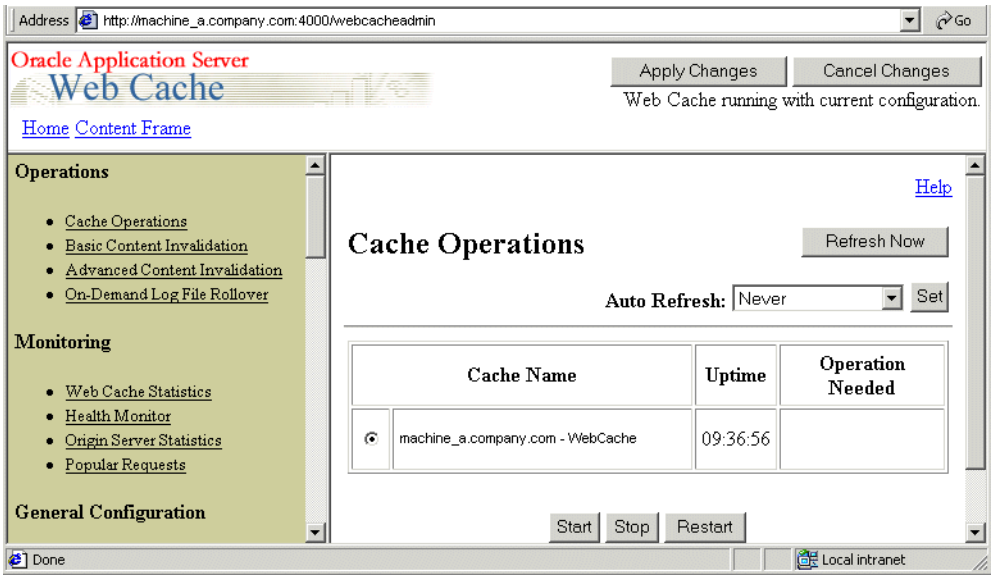
8.1 About OracleAS Web Cache

OracleAS Web Cache is a content-aware server accelerator, or reverse proxy server, that improves the performance, scalability, and availability of Web sites that run on OracleAS. By storing frequently accessed pages in memory, OracleAS Web Cache eliminates the need to repeatedly process requests for those pages on middle tier servers and databases.

You can also use OracleAS Web Cache to load balance OracleAS machines in a multiple machine installation (for more information, see Chapter 7, "Installing OracleBI Discoverer in a multiple machine environment").

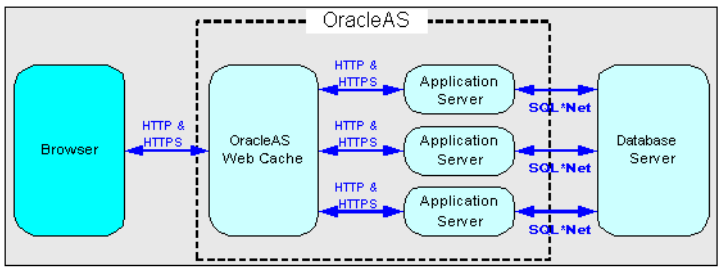
You manage OracleAS Web Cache using the OracleAS Web Cache Administration page.

Figure 8–1 OracleAS Web Cache Administration page



OracleAS Web Cache sits in front of application Web servers, caching their content, and providing that content to Web browsers that request it. When Web browsers access the Web site, they send HTTP protocol or HTTPS protocol requests to OracleAS Web Cache. OracleAS Web Cache, in turn, acts as a virtual server to the application Web servers. If the requested content has changed, OracleAS Web Cache retrieves the new content from the application Web servers.

Figure 8–2 OracleAS Web Cache overview



For more information about OracleAS Web Cache, see *Oracle Application Server Web Cache Administrator's Guide*.

Notes

- When deploying Discoverer, you typically add OracleBI installations to an OracleAS farm, and use OracleAS Web Cache as a proxy server (for more information, see Chapter 7, "Installing OracleBI Discoverer in a multiple machine environment").

8.2 What are the benefits of OracleAS Web Cache?

Using OracleAS Web Cache:

- improves performance

  Running on inexpensive hardware, OracleAS Web Cache can increase the throughput of a Web site by several orders of magnitude. In addition, OracleAS

Web Cache significantly reduces response time to browser requests by storing documents in memory and by serving compressed versions of documents to browsers that support the GZIP encoding method.

- improves scalability

  In addition to unparalleled throughput, OracleAS Web Cache can sustain thousands of concurrent browser connections. The result is that visitors to a site see fewer application Web server errors, even during periods of peak load.

- offers high availability

  OracleAS Web Cache supports content-aware load balancing and fail-over detection. These features ensure that documents not in the cache (referred to as 'cache misses') are directed to the most available, highest-performing Web server in the cluster. Further features guarantee performance and provide surge protection when application Web server load increases.

- offers cost savings

  Fewer application Web servers are required to meet the challenges posed by traffic spikes and denial of service attacks. As a result, OracleAS Web Cache offers a simple and inexpensive means of reducing a Web site's cost for each request.

- reduces network traffic

  Most requests are resolved by OracleAS Web Cache, reducing traffic to the application Web servers. The cache also reduces traffic to backend databases located on computers other than the application Web server.

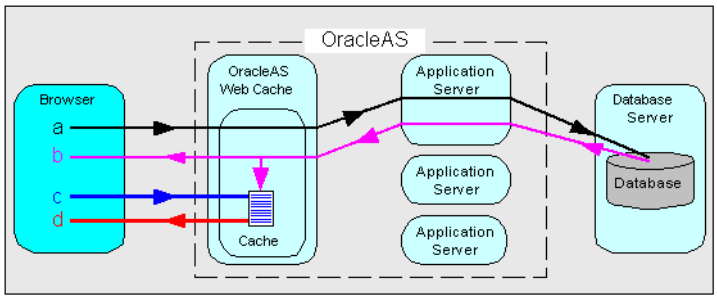
For more information about the benefits of using OracleAS Web Cache, see *Oracle Application Server Web Cache Administration and Deployment Guide*.

8.3 How does OracleAS Web Cache work?

OracleAS Web Cache uses cacheability rules to determine which documents to cache. A cacheability rule indicates whether you want the documents specified within a particular URL to be cached or not cached. Cacheability rules are defined using regular expressions (for more information about Oracle's implementation of regular expressions, see *Oracle Application Server Web Cache Administration and Deployment Guide*).

The document specified within a URL included in a cacheability rule is not actually cached until a browser requests it.

Figure 8–3 The URL and document request process



Key to figure:
a. The first time a browser requests a particular URL, OracleAS Web Cache detects that the required document is not in the cache (referred to as a cache miss). OracleAS Web

Cache therefore forwards the request to an application Web server, which sends the request to the database.
b. The database returns the data to the application Web server, which forwards a document and its URL to OracleAS Web Cache. If the URL is specified as one of the URLs to cache, OracleAS Web Cache caches the document for subsequent requests.
c. The next time a browser requests the URL, OracleAS Web Cache detects that the document is already in the cache (referred to as a cache hit).
d. OracleAS Web Cache serves the document from the cache to the browser.

8.4 When to use Discoverer Viewer with OracleAS Web Cache

Using Discoverer Viewer with OracleAS Web Cache to improve Web site performance, scalability, and availability will be most appropriate in the following cases:

- where Web sites only use public workbooks
- where Web sites access data that is relatively static
- where the Discoverer manager and/or workbook creator has access to OracleAS Web Cache and can refresh the cache after changes to workbooks

The OracleAS Web Cache caching rules are automatically pre-configured for Discoverer Viewer during installation.

For security reasons, OracleAS Web Cache only caches Discoverer Viewer pages that are accessed using a public connection.

OracleAS Web Cache is particularly suitable for optimizing Discoverer Viewer performance when controlling access to data is relatively unimportant (e.g. where the same public connections are used by several users to access workbooks). OracleAS Web Cache is less suitable in restricted environments where controlling access to data is an issue (e.g. where private connections are used by individuals to access their own workbooks). If you are considering using OracleAS Web Cache in a restricted environment, note that a malicious user might be able to access pages that have been cached for another user (for more information about OracleBI Discoverer security in general, see Chapter 14, "Maintaining security with OracleBI Discoverer").

8.5 How to use Discoverer Viewer with OracleAS Web Cache

To use Discoverer Viewer with OracleAS Web Cache, do the following:

- disable Single Sign-On (SSO) - for more information, see Section 14.7.2.2, "How to enable and disable Single Sign-On for Discoverer"
- create two caching rules for Discoverer on each OracleBI middle tier installation - for more information, see Section 8.5.1, "How to create Discoverer caching rules"
- enable OracleAS Web Cache for Discoverer Viewer on each OracleBI middle tier installation - for more information, see Section 8.5.2, "How to enable OracleAS Web Cache for Discoverer Viewer"
- (optional) configure Discoverer Viewer to ensure maximum caching - for more information, see Section 8.5.3, "How to configure Discoverer Viewer to enable maximum caching"

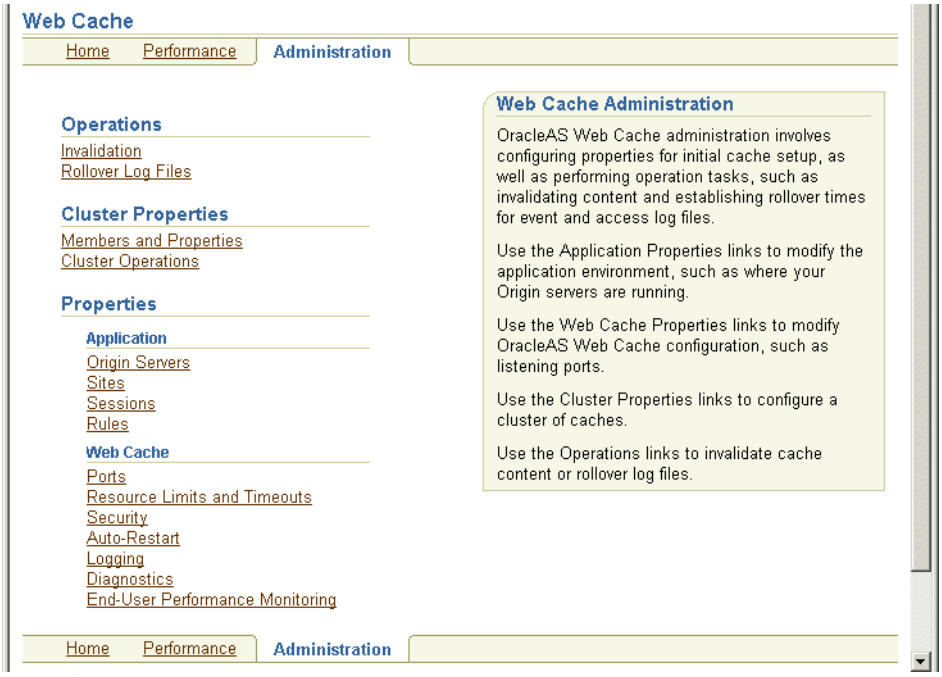
8.5.1 How to create Discoverer caching rules

Although OracleAS Web Cache is installed with OracleAS, it is disabled by default. To make use of OracleAS Web Cache, you must create caching rules. For example, you

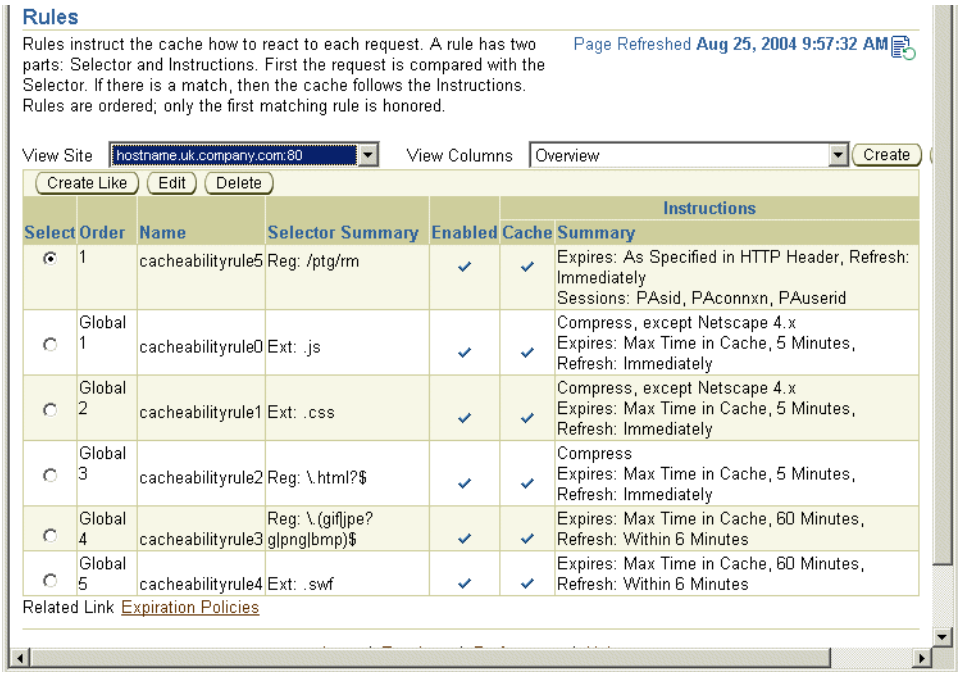
might want to cache Discoverer Viewer pages, or use a Discoverer middle tier machine to provide load balancing.

To enable OracleAS Web Cache for Discoverer Viewer:

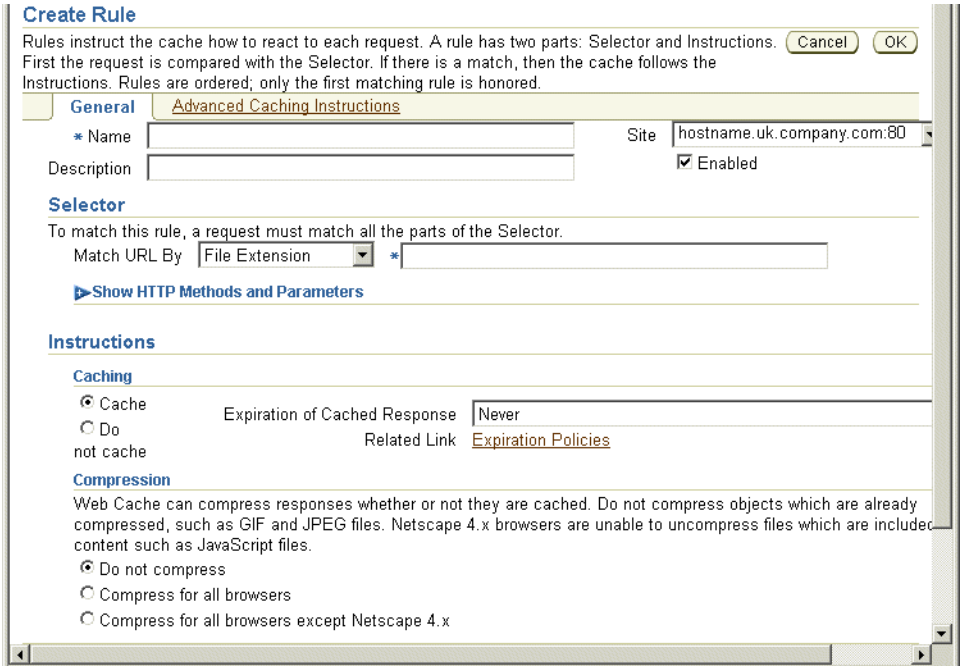
1. Display the Discoverer Home page in Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. In the Components table, select the Web Cache link in the **Name** column to display the Web Cache Home page.
3. Display the Administration tab.



4. Select the Rules link in the Properties - Application area to display the Caching area.



5. Click Create to display the Create Rule page.



6. Create a new rule as follows:

   a. In the **Name** field, type `Discoverer caching rule` or a similar unique name.

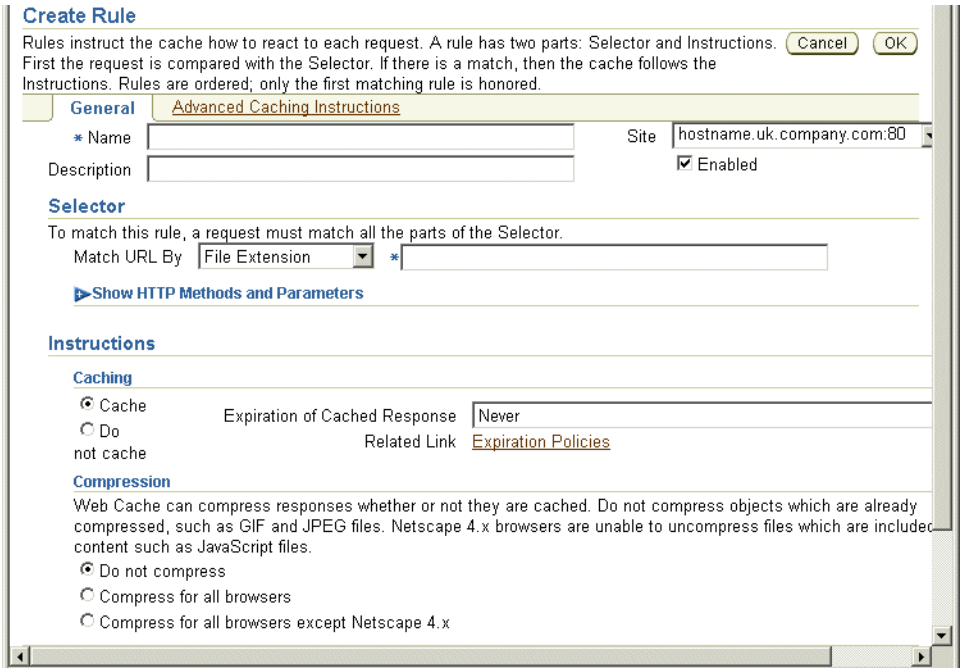
   b. In the **Match URL By** field, select Path Prefix from the drop down list, and type `/discoverer/app` in the adjacent text box.

      Do not change the default values of the other fields.

   c. Click OK to save the rule.

If you created the rule correctly, a confirmation message is displayed at the top of the Rules page that says 'Rule created successfully. This change will not take effect until Web Cache is restarted'.

7. Click Create to display the Create Rule page.

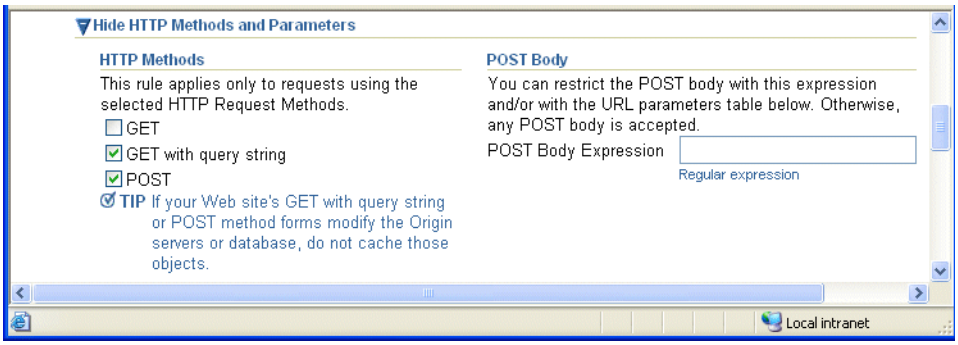


8. Create a new rule as follows:

   a. In the **Name** field, type `Discoverer caching rule` 2 or a similar unique name.

   b. In the **Match URL By** field, select Path Prefix from the drop down list, and type `/discoverer/servlet/GraphBeanServlet` in the adjacent text box.

   c. Click Show HTTP Methods and Parameters to display the HTTP Methods details.



   d. Select the **GET with query string** check box.

   e. Select the **POST** check box.

   f. Click OK to save the rule.

   If you created the rule correctly, a confirmation message is displayed at the top of the Rules page that says 'Rule created successfully. This change will not take effect until Web Cache is restarted'.

9. Click Restart Web Cache, and click Yes at the confirmation page.

   OracleAS Web Cache will now cache Discoverer Viewer pages, which will improve Discoverer performance.

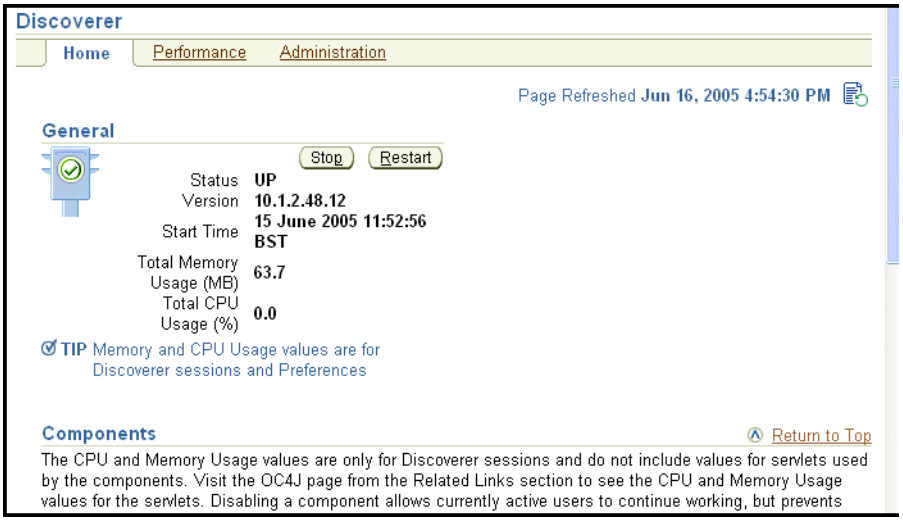
8.5.2 How to enable OracleAS Web Cache for Discoverer Viewer

Although OracleAS Web Cache is installed with Oracle Business Intelligence, it is disabled for use with Discoverer Viewer by default. To make use of OracleAS Web Cache with Discoverer, you must enable it. For example, you might want to cache Discoverer Viewer pages, or use a Discoverer middle tier machine to provide load balancing.

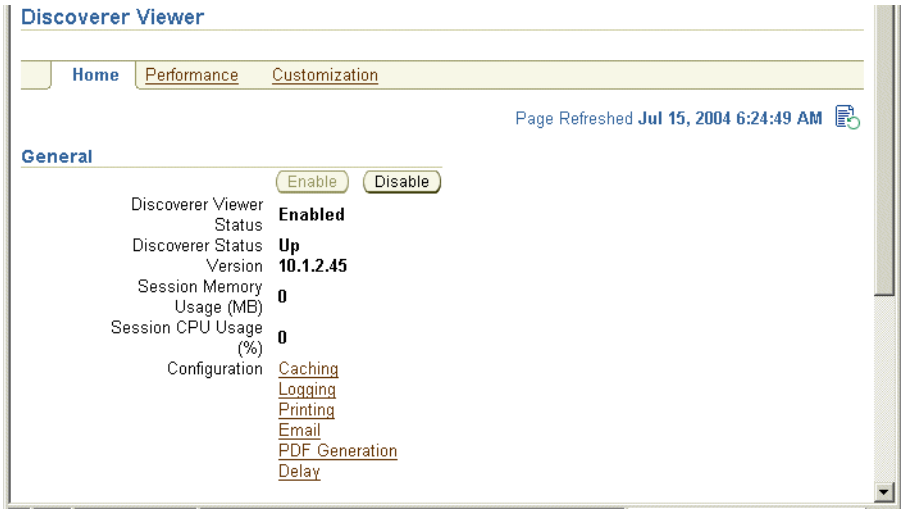
Note: Although Application Server Control might display the status of OracleAS Web Cache as 'Enabled' in the **Components** table, this does not mean that it is enabled for use with Discoverer Viewer. You must make sure that the **Use WebCache** check box is selected on the Discoverer Viewer Configuration page, as described below.

To enable OracleAS Web Cache for Discoverer Viewer:

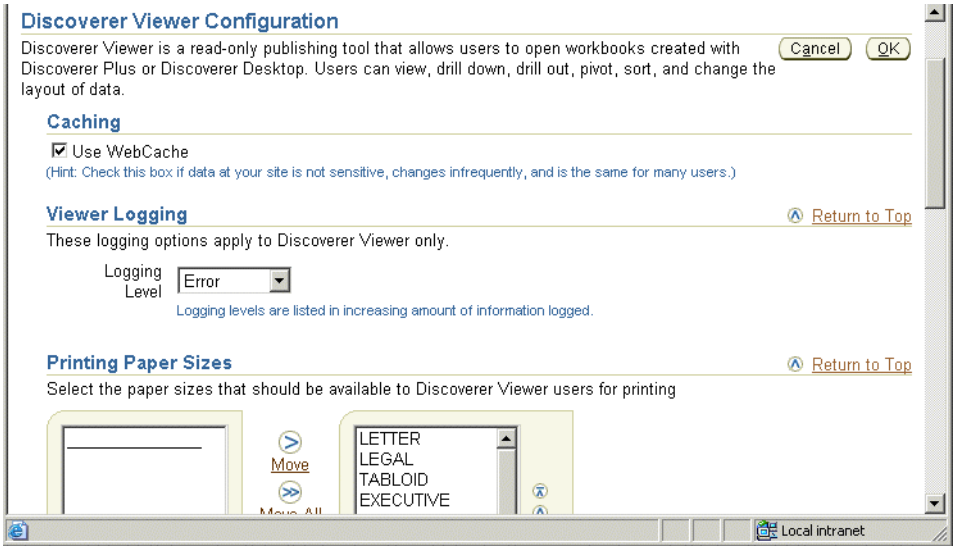
1. Display the Discoverer Home page in Application Server Control (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").



2. In the Components table, select the Discoverer Viewer link in the **Name** column to display the Discoverer Viewer Home page.



3. Select the Caching link to display the Caching area.



4. Select the **Use WebCache** check box.
5. Click OK.

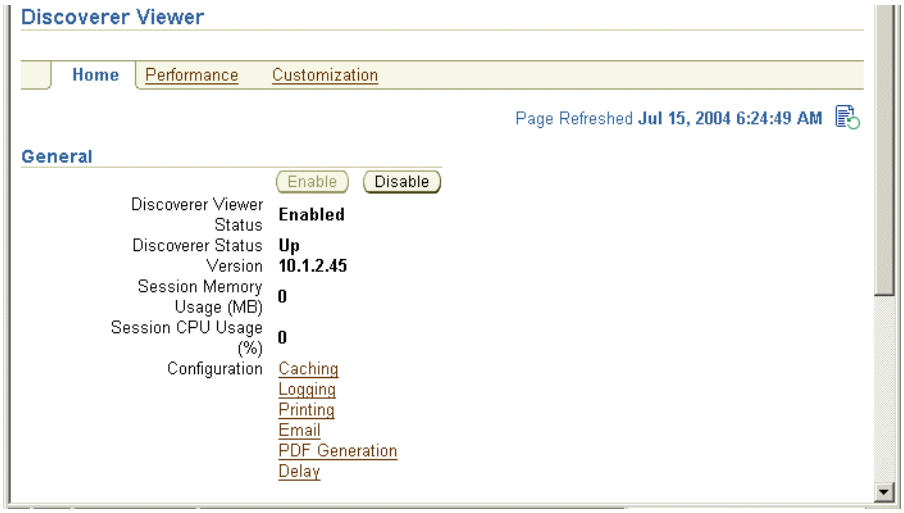
   OracleAS Web Cache is now enabled and starts caching Discoverer Viewer pages.

8.5.3 How to configure Discoverer Viewer to enable maximum caching

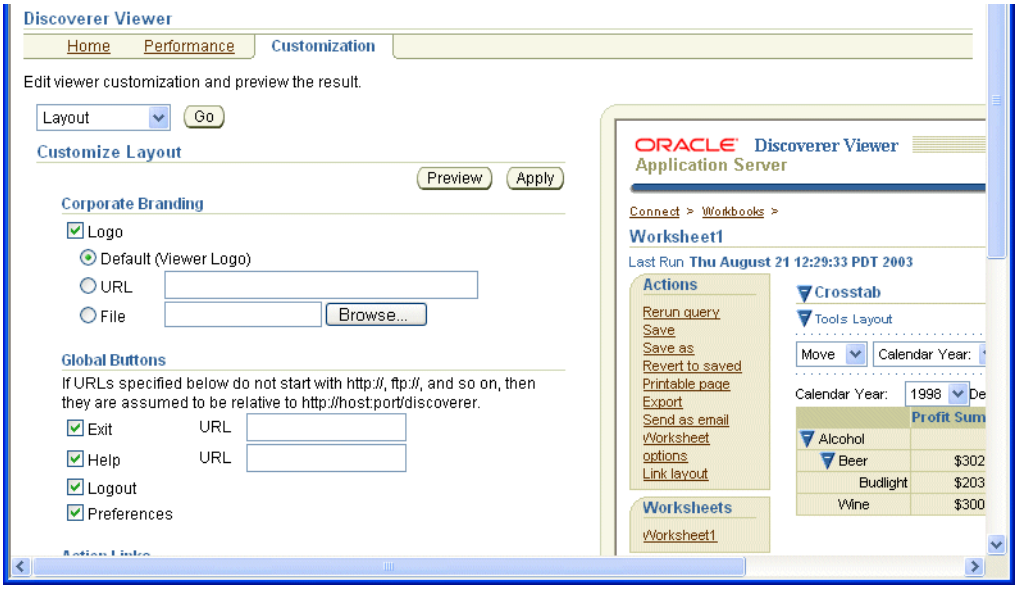
To maximize caching of Discoverer Viewer pages, you can optionally limit the end user options available in Discoverer Viewer. For example, if you remove the worksheet layout toolbar, you limit the amount of worksheet manipulation allowed by end users, which makes it easier for OracleAS Web Cache to cache pages.

To configure Discoverer Viewer to enable maximum caching:

1. Display the Application Server Control Discoverer Home page for the machine that you want to configure (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. In the **Components** table, select Discoverer Viewer in the **Name** column to display the Discoverer Viewer home page.



3. Select the Delay link to display the Viewer Delay Times area.
4. Set the **Query Progress Page** value and **Request** value to a high value (e.g. 60 seconds).
5. Click OK to return to the Discoverer Viewer Home page.
6. Display the Customization tab.
7. Select Layout from the **Customize** drop down list and click Go to display the Customize Layout page.



8. In the Action Links area, clear as many of the check boxes as possible, making sure that you enable the end users to perform any necessary tasks (e.g. Print, Send as Email).
9. In the Others area, clear the Tool Bars check box.
10. Click Apply to save the changes you have made.
11. Run Discoverer Viewer and open a workbook.

9

Customizing OracleBI Discoverer

This chapter explains how you can customize Discoverer's look and feel (LAF). For example, you might want to replace Discoverer Viewer's Oracle logo with a different logo, or change the user interface background color.

This chapter contains the following topics:

- Section 9.1, "Customizing Discoverer Plus"
- Section 9.2, "Customizing Discoverer Viewer"

Note: You can also use preference settings in pref.txt to hide or display Discoverer user interface components. For example, you can hide or display the Available Items pane in Discoverer Plus Relational using the EUL Object Navigator preference. For more information about preferences available, see Section 10.6, "List of Discoverer user preferences".

9.1 Customizing Discoverer Plus

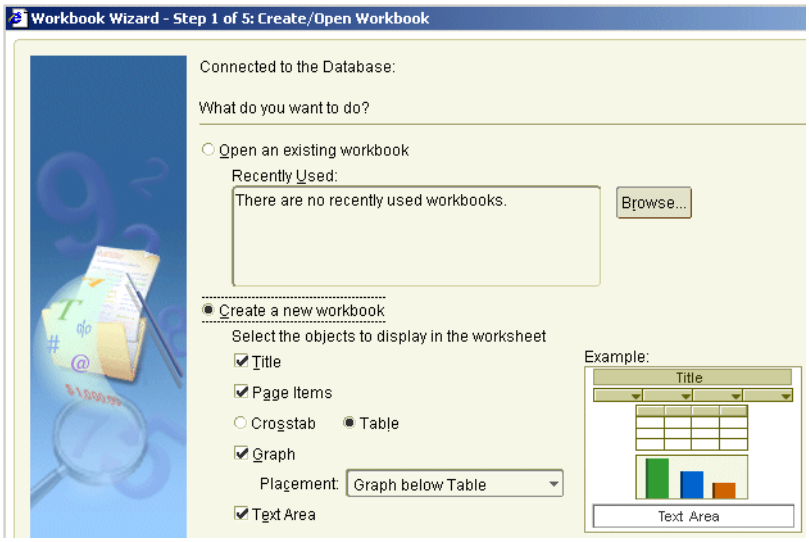
This section explains how to customize the LAF for Discoverer Plus Relational and Discoverer Plus OLAP.

9.1.1 About LAF styles available in Discoverer Plus Relational and Discoverer Plus OLAP

The following LAF styles are available:

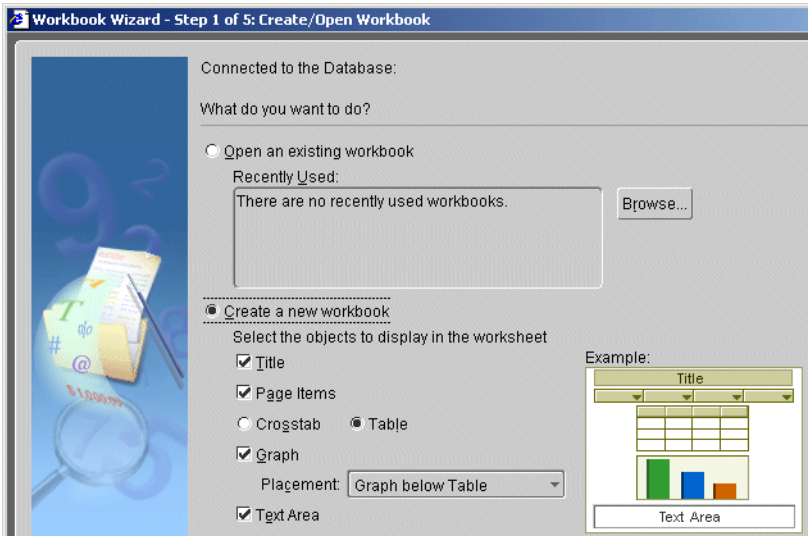
- browser

  The screenshot below shows the browser LAF.



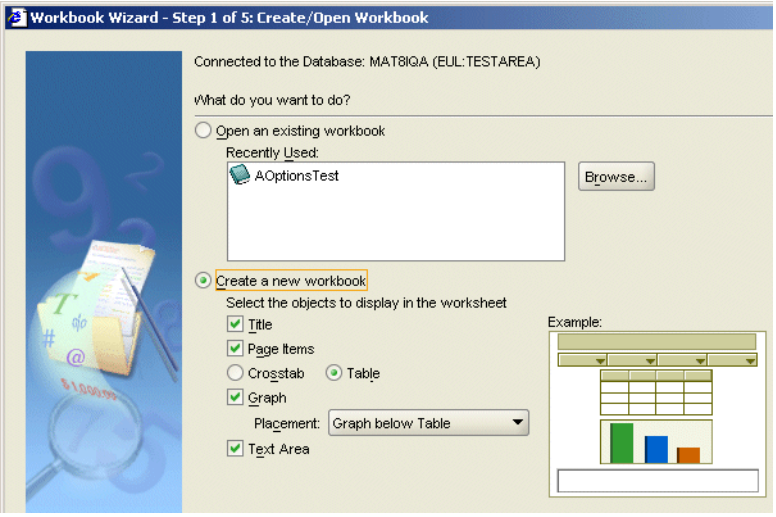
- oracle

  The screenshot below shows the oracle LAF.



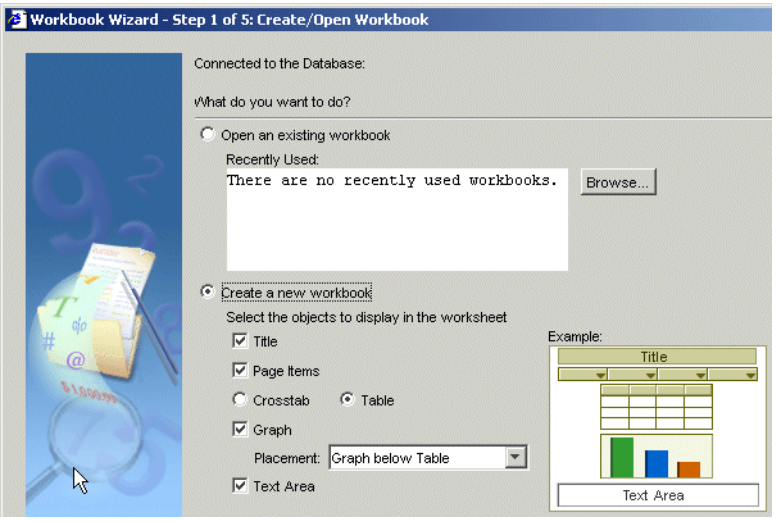
- plastic

  The screenshot below shows the plastic LAF.



- system

  The screenshot below shows the system LAF.



You can also create your own LAF and make this available as a LAF called custom. For more information, see Section 9.1.4, "How to define a custom LAF for Discoverer Plus Relational and Discoverer Plus OLAP".

Notes

- The plastic look and feel only works with the Sun Java Plug-in JVM (i.e. not with the JInitiator JVM). To deploy Discoverer Plus with the plastic look and feel, you must ensure that:
  - you select plastic as the look and feel option in Oracle Application Server control (for more information, see Section 9.1.3, "How to change the Discoverer Plus LAF for all end users")
  - you select Sun Java Plug-in as the JVM option in Oracle Application Server control (for more information, see Section 5.9.1, "How to specify a different Java Virtual Machine for Discoverer Plus")

9.1.2 How to change LAF style for Discoverer Plus Relational and Discoverer Plus OLAP

You can change the LAF style for Discoverer Plus Relational and Discoverer Plus OLAP in two ways:

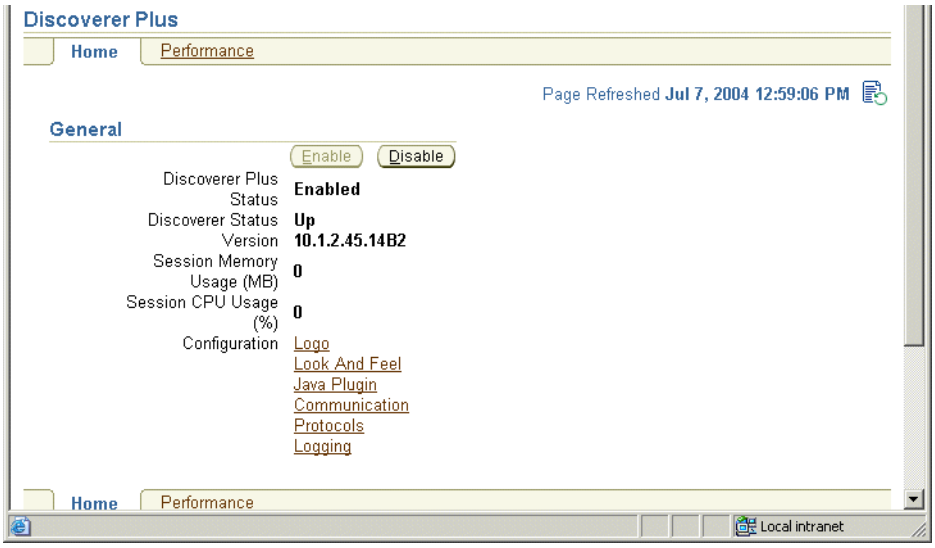
- for all end users (i.e. for all end users connecting to a particular OracleBI install) by specifying a LAF on the Discoverer middle tier (for more information, see Section 9.1.3, "How to change the Discoverer Plus LAF for all end users")
- for a particular end user, using the lookandfeelname URL parameter (for more information, see Section 13.8, "List of URL parameters specific to Discoverer Plus")

9.1.3 How to change the Discoverer Plus LAF for all end users

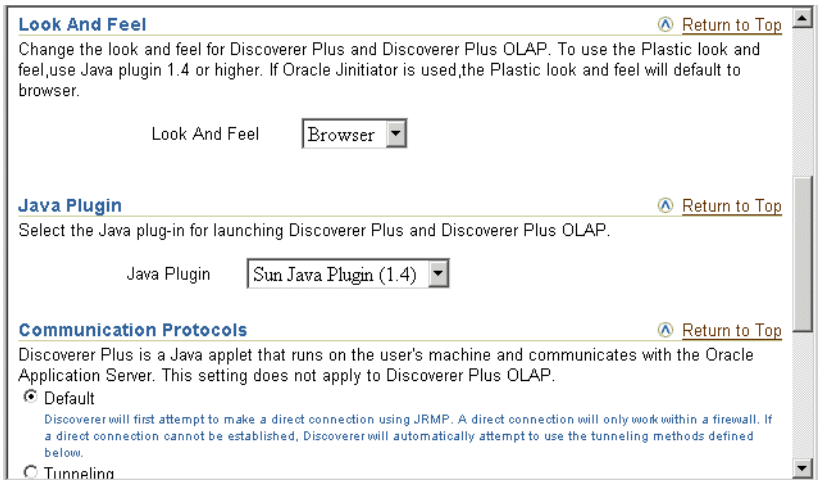
You change the Discoverer Plus Relational and Discoverer Plus OLAP LAF to change the background color, button style, and font style. The look and feel types that are available are plastic, system, browser, oracle, and custom (if specified). For more information about LAF styles available, see Section 9.1.1, "About LAF styles available in Discoverer Plus Relational and Discoverer Plus OLAP".

To change the Discoverer Plus Relational and Discoverer Plus OLAP LAF:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. In the Components area, select the **Discoverer Plus** link in the **Name** column to display the Discoverer Plus home page.



3. Select the **Look And Feel** link to display the Look And Feel area.



4. Use the **Look And Feel** drop down list to select a LAF style (e.g. system, plastic).
5. Click OK.

When end users start Discoverer Plus Relational and Discoverer Plus OLAP, the LAF that you selected will be used.

9.1.4 How to define a custom LAF for Discoverer Plus Relational and Discoverer Plus OLAP

You define a custom LAF for Discoverer Plus Relational and Discoverer Plus OLAP to enable you to deploy Discoverer using your own LAF (i.e. different to the LAFs shipped with Discoverer, for example, browser, plastic).

Note: You must supply your own LAF class and copy the JAR file containing the LAF class into the <ORACLE_HOME>/discoverer/lib directory.

To define a custom LAF for Discoverer Plus Relational and Discoverer Plus OLAP on a global basis:

1. Copy the JAR file containing the LAF class into the <ORACLE_HOME>/discoverer/lib directory.
2. Open the configuration.xml file (for more information about the location of configuration files, see Section A.1, "List of Discoverer file locations").
3. Locate the plus element in the Discoverer Servlet configuration area (see example element highlighted below).

```
  <plus laf="browser" lafJar="" lafClass="" logLevel="error" plugin="sun" helpSet="he
    <transport name="jrmp"/>
    <transport name="http"/>
    <logo rendered="true" src="url" url="" file=""/>
    <jvm name="sun" classid="clsid:CAFEEFAC-0014-0002-0004-ABCDEFFEDCBA" plugin_setup
    <jvm name="jinitiator" classid="clsid:CAFECAFE-0013-0001-0009-ABCDEFABCDEF" plugi
    <enablePlus status="true">Plus was stopped by your Administrator.</enablePlus>
  </plus>
  <!-- Portlet Provider configuration. -->
  <portlet logKey="disco.portlet.fatal" logLevel="error">
    <enablePortlet status="true"/>
    <sessionPool maxSessions="20" useCachedSession="true" maxSessionAgeHour="35" maxS
  </portlet>
</disco:configuration>
```

4. In the plus element, change the laf attribute to custom.

   For example, change <plus laf="browser" to <plus laf="custom".

5. Replace the lafJar attribute with the name of the JAR file containing the LAF (i.e. the JAR file that you copied into the <ORACLE_HOME>/discoverer/lib directory).

6. Replace the lafClass attribute with the fully qualified Java class name of the LAF.

   For example, javax.swing.plaf.metal.MetalLookAndFeel.

7. Save the configuration.xml file.

When end users start Discoverer Plus or Discoverer Plus OLAP, the custom LAF is applied.

You can change the LAF back to one of the standard LAFs installed with Discoverer using Oracle Application Server Control (for more information, see Section 9.1.3, "How to change the Discoverer Plus LAF for all end users").

9.2 Customizing Discoverer Viewer

This section explains how to customize Discoverer Viewer.

9.2.1 What is Discoverer Viewer customization?

Discoverer Viewer customization is divided into two categories: layout, and look and feel (LAF). Layout customization enables you to display or hide page elements (e.g. the Exit button, Help button, and Action links) and change the target of some links (e.g. you can specify a URL for the Exit button). LAF customization enables you to change the font size and colors used in Viewer pages (e.g. the text that appears in links).

For example, you can customize Discoverer Viewer as follows:

- Change Discoverer's interface font styles and colors to match your organization's Internet LAF. For more information, see Section 9.2.2, "How to change the default Discoverer Viewer LAF".
- Change Discoverer Viewer's layout (e.g. change the company logo or hide and display links). For more information, see Section 9.2.3, "How to change the default Discoverer Viewer layout".

  You might also change the layout to maximize caching in OracleAS Web Cache (for more information, see Section 8.5.3, "How to configure Discoverer Viewer to enable maximum caching").

Note: If you have deployed Discoverer in a multiple machine installation, note the following:

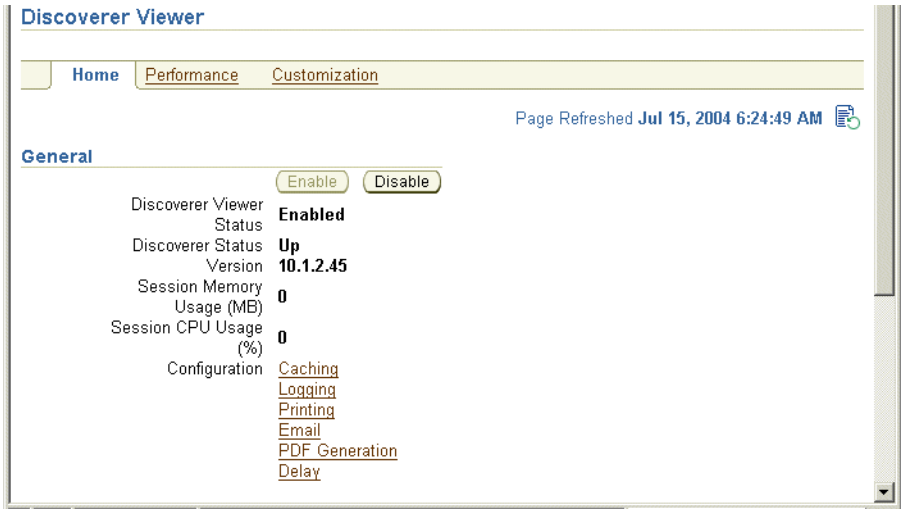
- If you want to deploy the same customized Discoverer Viewer user interface across all machines, you must repeat the customization changes on each Discoverer middle tier machine.

9.2.2 How to change the default Discoverer Viewer LAF

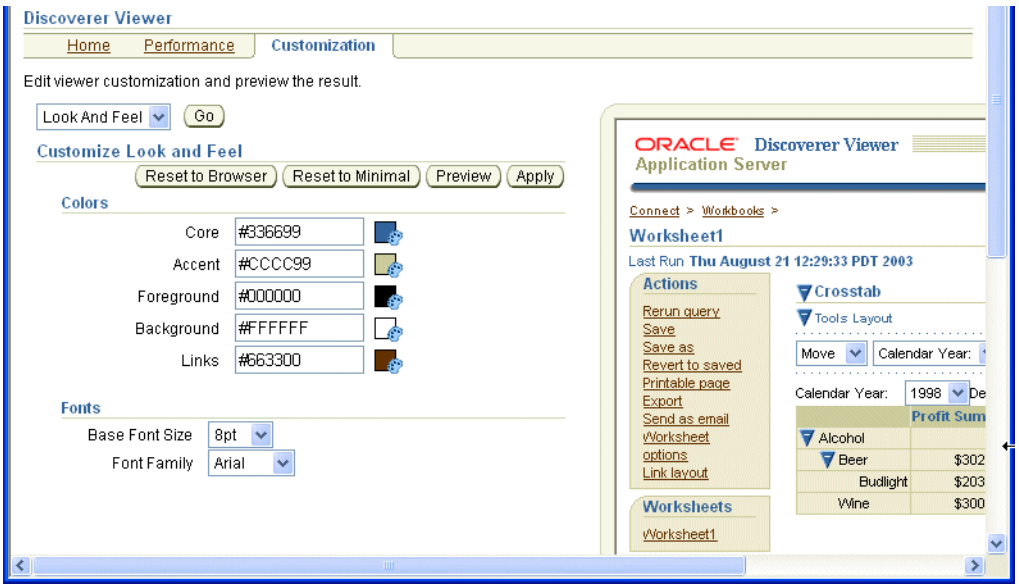
You change the default Discoverer Viewer interface LAF when you want to provide a customized LAF to end users. For example, you might want to change the background page color or fonts.

To change the default Discoverer Viewer LAF:

1. Display the Application Server Control Discoverer Home page for the machine that you want to configure (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. In the Components table, select Discoverer Viewer in the **Name** column to display the Discoverer Viewer home page.



3. Display the Customization tab.
4. Select Look and Feel from the **Customize** drop down list and click Go to display the Customize Look and Feel page.



5. Make changes as required.

   For example, to change the color of all displayed links, click the color palette icon next to the **Links** field and select a color. Alternatively, you can enter the hexadecimal value in the appropriate field (e.g. enter #0000FF to use the color blue).

   Note: Changes that you make to color and fonts apply to the Discoverer Viewer user interface, not to the worksheet text styles and colors. Worksheet text styles and colors are specified in Discoverer Plus Relational and Discoverer Plus OLAP.

6. Click Preview to display your changes in the Preview area.
7. Click Apply to save the changes you have made.
8. Run Discoverer Viewer and open a workbook.

Hint: If you have an existing Discoverer Viewer session running, refresh the browser to update Discoverer Viewer with the changes that you have made.

The LAF changes that you made are applied to all new or refreshed Discoverer Viewer browser sessions.

Notes

- You do not customize the actual worksheet text styles and cell colors of Discoverer Viewer using the LAF. You define worksheet text styles and cell colors in Discoverer Plus.

  If you want consistent worksheet text styles and cell colors (i.e. all worksheets have the same cell color and text color), make sure that Discoverer Plus users format worksheet cells in the same way. For more information, see *Oracle Business Intelligence Discoverer Plus User's Guide.*

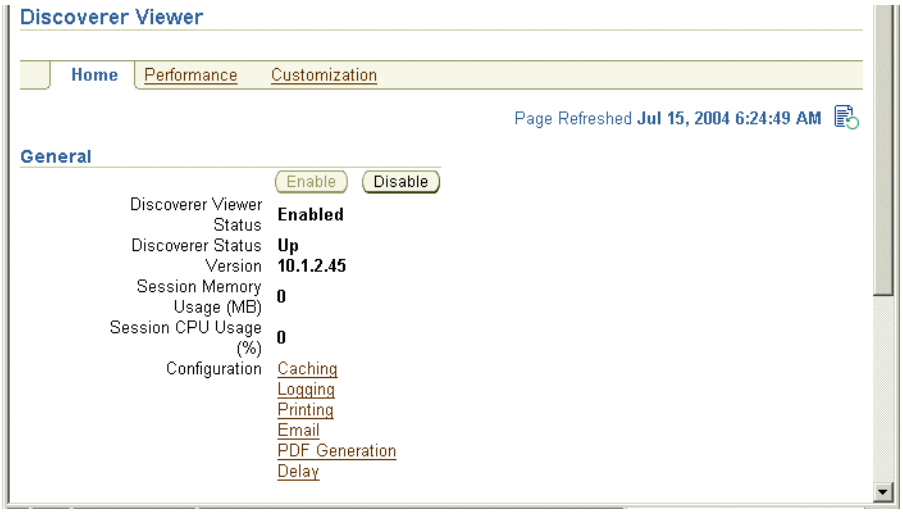
- To display or remove Discoverer Viewer links (e.g. the Preferences link), see Section 9.2.3, "How to change the default Discoverer Viewer layout".

9.2.3 How to change the default Discoverer Viewer layout

You change the default Discoverer Viewer layout when you want to provide a customized layout to end users. For example, you might want to change the company logo or hide the Preferences link.

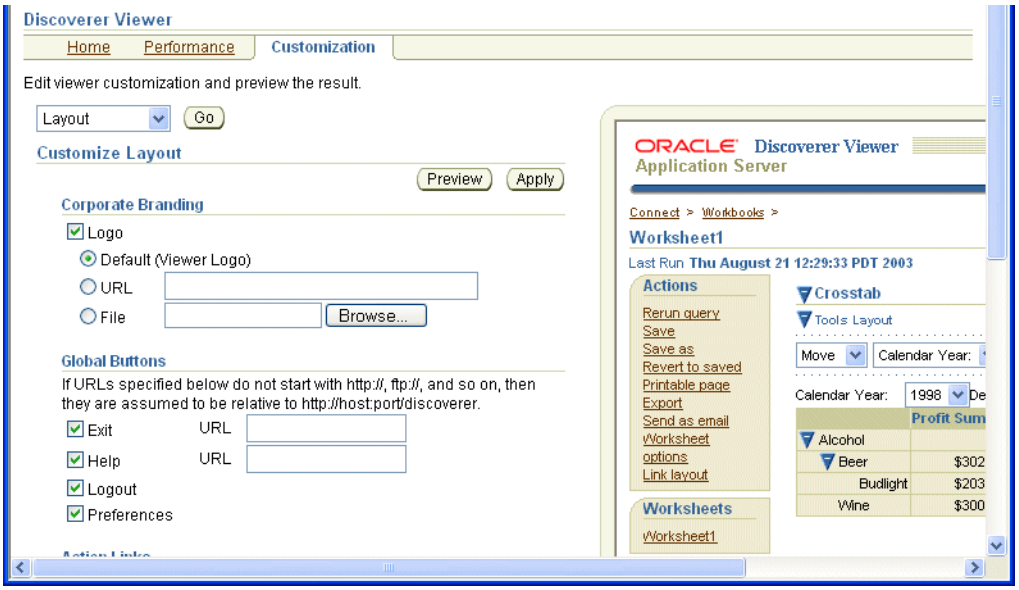
To change the default Discoverer Viewer layout:

1. Display the Application Server Control Discoverer Home page for the machine that you want to configure (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. In the **Components** table, select Discoverer Viewer in the **Name** column to display the Discoverer Viewer home page.



3. Display the Customization tab.

4. Select Layout from the **Customize** drop down list and click Go to display the Customize Layout page.



5. Make changes as required.

   For example, you might want to replace the default Discoverer Viewer logo with a different logo using an alternative graphic file:

   a. Click the **Logo** check box.

   b. Click the **File** radio button.

   c. Click Browse to locate a graphic file (e.g. mycompanylogo.gif) to use as an alternative logo to appear on Viewer pages.

      Note: If you change the Discoverer Viewer logo, the new logo is also displayed on the Connect to Discoverer Viewer page and the Connect to Discoverer Plus page (for more information, see Section 4.4, "About the Discoverer connections page").

6. Click Preview to display your changes in the Preview area.

7. Click Apply to save the changes you have made.

8. Run Discoverer Viewer and open a workbook.

Hint: If you have an existing Discoverer Viewer session running, refresh the browser to update Discoverer Viewer with the changes that you have made.

The layout changes that you made are applied do all new or refreshed Discoverer Viewer browser sessions.

Notes

- To change the LAF of Discoverer Viewer (e.g. colors and fonts), see Section 9.2.2, "How to change the default Discoverer Viewer LAF".

10

Managing OracleBI Discoverer preferences

Note: This chapter only applies to Discoverer Plus Relational and Discoverer Viewer with relational and OLAP worksheets. For more information about configuring Discoverer Plus OLAP, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".

This chapter explains how to manage OracleBI Discoverer preferences, and contains the following topics:

10.1 What are Discoverer preferences?

Discoverer preferences are settings that define the Discoverer environment and control the behavior of Discoverer Plus and Discoverer Viewer.

There are two types of Discoverer preference:

- Discoverer system preferences (for more information, see Section 10.2, "About Discoverer system preferences")
- Discoverer user preferences (for more information, see Section 10.3, "About Discoverer user preferences")

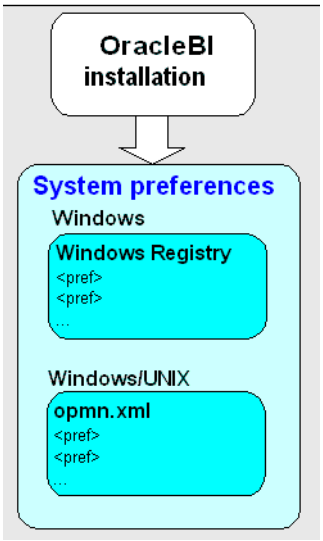
10.2 About Discoverer system preferences

Discoverer system preferences are created and set during installation. Typically you will never have to modify the Discoverer system preferences. System preferences are stored as follows:

- On UNIX systems, the Discoverer system preferences are stored in the opmn.xml file.

- On Windows systems, the Discoverer system preferences are stored in the Windows Registry and the opmn.xml file.

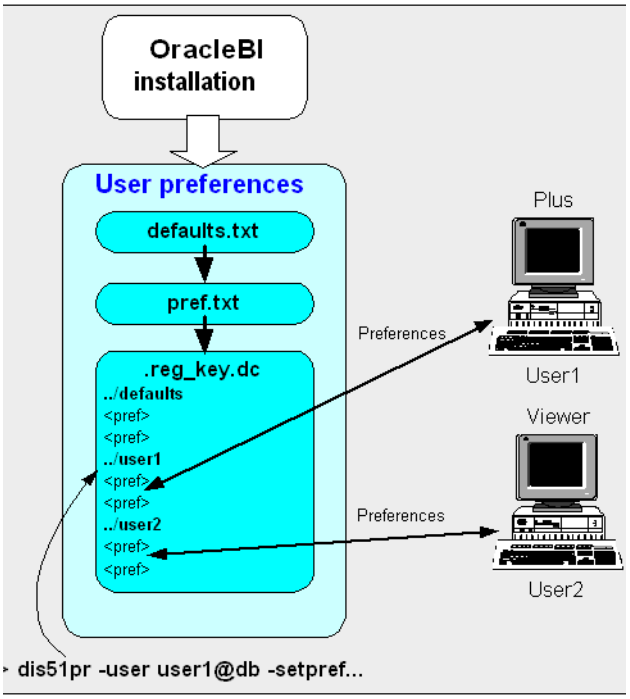
Figure 10–1 Discoverer System preferences



10.3 About Discoverer user preferences

During installation, Discoverer uses factory supplied default values (stored in defaults.txt) to create user preferences for all Discoverer users (stored in pref.txt).

Figure 10–2 Discoverer user preferences



When a new user starts an OracleBI Discoverer session for the first time, the settings in the pref.txt file take effect as that user's default settings.

After installation, the user preferences can be changed in a number of ways:

- Discoverer end users can change their own user preferences using options within Discoverer Plus or Discoverer Viewer. For example, a Discoverer Viewer end user might click Preferences and change their personal preferences. When an individual user changes a preference, this change is stored in the reg_key.dc file on the Discoverer middle tier (to find out the location of this file, see Section A.1, "List of Discoverer file locations").

  Individual preferences are stored for each user as a unique combination of database and userid in the reg_key.dc file, and loaded whenever the user starts a new session. Therefore, users can log on from different client machines and still have their individual settings take effect.

  For example, a Discoverer Plus end user might select Tools | Options to display the Options dialog and change the **Number of rows per page** value to 15. The following entry might be stored in reg_key.dc for that user:

  "RowsPerHTML"=D4:4:00,00,00,0F

  where '0F' is the hexadecimal value of 15.

  Note: Unless a user changes a preference value, the value of that preference is as specified in the pref.txt file.

- You can change the default preference values that Discoverer end users are presented with by changing the values in the pref.txt file. For the changes to take effect, you must 'apply' the preferences. For more information about changing default preference values, see Section 10.4, "How to set default user preferences for all users".

- You can change an individual user's preferences using the Discoverer preferences command line utility. Changes that you make are stored in the reg_key.dc file (for more information about changing individuals users' preferences, see Section 10.5, "How to set individual preferences for specific users").

Notes

- On UNIX implementations, the .reg_key.dc is a hidden UNIX file (i.e. the filename is prefixed with a '.'). Type the command `ls -al` to list hidden files.

- Never edit the reg_key.dc file directly. You must only change values in reg_key.dc using the Discoverer preferences command line utility dis51pr (to find out the location of this file, see Section A.1, "List of Discoverer file locations").

- If you delete the reg_key.dc file, you lose preferences set by Discoverer end users or preferences set using the Discoverer preferences command line utility. Default preferences stored in pref.txt are applied.

- The factory supplied default values for pref.txt are contained in the defaults.txt file (to find out the location of this file, see Section A.1, "List of Discoverer file locations"). If you make a mistake when editing the pref.txt file (or lose or corrupt the file), refer to defaults.txt to restore the content of pref.txt to the original values.

- Maximum values for numeric preferences are documented in the pref.txt file.

- You can edit the pref.txt file without shutting down the Preferences component. In other words, users can continue working while you edit the pref.txt file.

- If you want to deploy Discoverer on multiple machines, you might want to use a centralized set of Discoverer preferences. You do this by specifying one Discoverer Preferences server machine and turning of the Discoverer Preferences component

on the other machines. For more information, see Section 7.6, "About the Discoverer Preferences component in a multiple machine environment".

10.4 How to set default user preferences for all users

You set default users preferences for all users when you want to globally configure Discoverer. To set default user preferences for all users you edit the pref.txt file on the Discoverer Preferences server (for more information about the Discoverer Preferences server, Section 7.6, "About the Discoverer Preferences component in a multiple machine environment").

Note: Changes that you make to the default user preferences only apply to new end users, or end users who have not changed their settings. Changes do not affect end users who have already changed their own settings.

To set default user preferences for all users:

1. On the host machine, open the pref.txt file in a text editor (to find out the location of this file, see Section A.1, "List of Discoverer file locations").
2. Edit the items in the pref.txt file as required.
3. Save the pref.txt file.
4. Stop the OracleBI Discoverer service (for more information, see Section 5.3, "About starting and stopping the Discoverer Service").
5. Run the applypreferences script to apply the preference changes you have made (for more information about the applypreferences script, see Section A.1, "List of Discoverer file locations").

   You must run the applypreferences script from the host machine.

   Hint: Check for error messages in the error.txt file in the current directory to verify that the preferences were applied correctly (for more information about the location of configuration files, see Section A.1, "List of Discoverer file locations").
6. Start the OracleBI Discoverer service (for more information, see Section 5.3, "About starting and stopping the Discoverer Service").

10.5 How to set individual preferences for specific users

To set individual preferences for specific users:

1. From the command prompt, navigate to the directory containing the Discoverer preferences command line utility dis51pr (to find out the location of this file, see Section A.1, "List of Discoverer file locations").
2. Use the Discoverer preferences command line utility to enter a command at the command prompt, using the following syntax:

   ```
   dis51pr -user <user> -setpref <"preference category"> <"preference name">
   <"preference value">
   ```

   where:

   - *<user>* is the name of the user for which you want to set the preference value, followed by the @ symbol, followed by the name of the database (e.g. jchan@salesdb)
   - *<"preference category">* is the category of the preference you want to change (e.g. "Database")

- <*"preference name"*> is the name of the preference you want to change (e.g. "DefaultEUL")
- <*"preference value"*> is the value you want the preference to have

Examples:

- if you want to set the default EUL to Sales for the user jchan, type the following at a command prompt:

```
dis51pr -user jchan@salesdb -setpref "Database" "DefaultEUL" \\"Sales\\"
```

- if you want to set the maximum amount of heap memory allowed for the data cache to 512000 for a user jchan, type the following at a command prompt:

```
dis51pr -user jchan@salesdb -setpref "Application" "MaxVirtualHeapMem"
512000
```

Notes

- To display online help for the Discoverer preferences command line utility, type the name of the script followed by -help (e.g. dis51pr -help).
- Preference names and values are case-sensitive.
- When specifying a string as a preference value, prefix the string with \\" and end the string with \\". For example, if the preference value is Sales, enter \\"Sales\\".
- For a list of Discoverer preferences that you can set using the Discoverer preferences command line utility, see Section 10.6, "List of Discoverer user preferences".

10.6 List of Discoverer user preferences

This table shows the category, description, default value, and valid values of Discoverer user preferences.

Note: Maximum values for preferences are documented in the pref.txt file.

User preference name	Category	Description	Default value	Valid values
AdjustPlusFontSize	Application	Specifies whether Discoverer Plus Relational adjusts the font size to correct a discrepancy in the Java virtual machine, resulting in a smaller font size than other Windows applications. To maintain consistency between Discoverer Plus Relational and Discoverer Plus OLAP, this value should be set to false.	false	true = adjust font sizes false = do not adjust font sizes
AggregationBehavior	Application	Specifies whether Discoverer linearly aggregates values that cannot be aggregated locally. For more information, see *Oracle Business Intelligence Discoverer Plus User's Guide*.	0	0 = false 1 = true

User preference name	Category	Description	Default value	Valid values
AllowAggregationOverRepeatedValues	Application	Specifies whether to aggregate repeated values. If set to 0, Discoverer displays the non-aggregable label (e.g. N/A).	0	0 = do not aggregate repeat values 1 = aggregate repeat values
AppsFNDNAM	Database	Specifies the schema in which Oracle Applications data is stored.	APPS	Valid Apps foundation name
AppsGWYUID	Database	Specifies the public user name and password for the AOL security DLL.	APPLSYSPUB/PUB	Valid Apps user name and password
AvoidServerWildCardBug	Database	Specifies whether Discoverer avoids a wildcard issue in the database.	0	0 = false 1 = true
Axis Grid Style	Crosstab	Specifies whether to display the item label grid in three dimensional (3D) style.	0	0 = false 1 = true
Axis Labels	Crosstab	Specifies whether to display item labels.	1	0 = false 1 = true
AxisLabelBehavior	Application	Specifies whether Discoverer exports axis labels as part of a worksheet.	1	1 = export axis labels 2 = do not export axis labels 3 = use the same export format as Discoverer Desktop
Axis Style	Crosstab	Specifies the crosstab axis position.	2	1 = inline 2 = outline
BusinessAreaFastFetchLevel	Database	Specifies the amount of pre-caching that occurs for components and items whenever a Business Area is fetched.	1	1
CacheFlushPercentage	Application	Specifies the percentage of cache flushed if the cache is full.	25	User specified
CellGridColor	Application	Specifies the default Discoverer cell color. The value should be the integer value of the RGB color code in 0xrrggbb format, where: rr = hexadecimal value for red gg = hexadecimal value for green bb = hexadecimal value for blue	0	User specified

User preference name	Category	Description	Default value	Valid values
CellPadding	Application	Specifies the amount of space (in pixels) that appears around each cell value in the table or crosstab when displayed or printed. For example, 0 = no pixels, 1 = one pixel, 2 = two pixels. **Note**: Set this value to 0 to reduce the size of printed reports by removing extra spaces. **Hint**: For more information about reducing the size of a printed report, see the PrintHeadersOnce preference.	1	User specified **Hint**: To avoid worksheet layout problems, do not specify a value greater than 5.
Cell XGridline	Application	Specifies whether to show horizontal and vertical gridlines. **Note**: To hide both horizontal and vertical gridlines, both Cell XGridline and Cell YGridline must be set to 0. If either XGridline or YGridline is set to 1, both horizontal and vertical gridlines are displayed.	0	0 = hide 1 = show
Cell YGridline	Application	Specifies whether to show horizontal and vertical gridlines. **Note**: To hide both horizontal and vertical gridlines, both Cell XGridline and Cell YGridline must be set to 0. If either XGridline or YGridline is set to 1, both horizontal and vertical gridlines are displayed.	0	0 = hide 1 = show
ColsPerPage	Application	Specifies the number of columns to display in Discoverer Viewer before the next scroll.	128	User specified
Column Headings	Application	Specifies whether to show column headings.	1	0 = Off 1 = On
Column Width	Application	Specifies default column width in pixels.	100	Greater than 1
Data Format	Application	Specifies whether to apply HTML formatting to worksheet data cells.	'<fontFormat fontName="Dialog' pitch='11' bold='false' italic='false' underline='false' strikethrough='false' foreground='0,0,0' background='255,255,255' halign='right' valign='top' wordWrap='true'></fontFormat>'	User specified

User preference name	Category	Description	Default value	Valid values
DefaultEUL	Database	Specifies the EUL to which you want all users to connect. Each user can override this default from the Discoverer Plus Options dialog.	Any EUL you have created.	Any valid EUL
DefaultExportPath	Application	Specifies a default export path in Discoverer Plus Relational. If set to "", Discoverer saves exported files in the client browser machine's home directory (i.e. the profile directory in Windows). For example, on a Windows XP client, this path might be c:\Documents and Settings\<*Windows user name*>.	""	User specified
DefaultPreserveDisplayPropertyForRefresh	Database	When refreshing, specifies whether an updated item description is discarded and replaced with the original description, or whether the updated description is retained.	0	0 = Use updated description 1 = Use original description
DefaultTextArea	Application	Specifies default worksheet text for the text area for new worksheets.	<blank>	User specified
DefaultTitle	Application	Specifies a default worksheet title for new worksheets.	<blank>	User specified
DisableAlternateSortOptimization	Database	Specifies whether Discoverer writes optimized Alternate Sort queries. **Hint**: Set to 1 only if you use external registered summaries.	0	0 = Do not write optimized Alternate Sort queries 1 = Do write optimized Alternate Sort queries
DisableAutoOuterJoinsOnFilters	Database	Specifies the behavior of Discoverer when running queries involving an outer join with a condition (or conditions) applied. The effect of this setting is fully explained in the *Oracle Business Intelligence Discoverer Administration Guide*.	0	0 = Do not disable outer joins on filters 1 = Disable outer joins on filters
DisableAutoQuery	Database	Specifies whether to automatically run queries and display worksheet data when a worksheet is opened.	0	0 = Run queries 1 = Do not run queries
DisableClassicExports	Application	Specifies whether to allow or disallow data exports from Discoverer Plus. When this value is set to false, export to SLK, DIF, and WKS format is disabled in Discoverer Plus.	0	0 = False 1 = True

User preference name	Category	Description	Default value	Valid values
DisableFanTrapDetection	Database	Specifies whether to disable the facility that detects user queries with unresolvable fan traps.	0	0 = Enable fan trap detection 1 = Disable fan trap detection
DisableFanTrapResolution	Database	Specifies whether to resolve fan traps. For a detailed description of fan trap resolution in Discoverer, see *Oracle Business Intelligence Discoverer Administration Guide*.	0	0 = turn on fan trap resolution 1 = turn off fan trap resolution - you get a pure cartesian product
DisableMultiJoinDetection	Database	Specifies whether to use multiple join path detection when creating worksheets in Discoverer Plus. When this setting is equal to 1, Discoverer Plus selects all join options when creating a worksheet. When this setting is equal to 0 and multiple joins exist, Discoverer Plus displays the Join Folders dialog where you choose the join(s) to use for the worksheet. **Note**: It is recommended that Discoverer Plus users select all available joins for Discoverer to display accurate results data.	0	0 = Do not disable multiple join detection 1 = Disable multiple join detection
EnableTriggers	Database	Specifies whether database triggers are disabled. For example, Discoverer attempts to make a database call for every new column found during a refresh. If this value is set to 0, Discoverer will not make the database call.	0	0 = Disable database triggers 1 = Enable database triggers
EnableWebQueryRun	Application	Specifies whether Discoverer response messages are displayed in Microsoft Excel when a query is run in Microsoft Excel. See also ExportToWebQuery, WebQueryBaseURL.	N/A	0 = Off 1 = On
EnhancedAggregationStrategy	Database	Specifies whether to use Enhanced Data Aggregation and if it is, what SQL generation strategy to use. For more information about setting this value, see Section 10.6.1, "About the EnhancedAggregationStrategy user preference setting".	1	0 = Off 1 = Strict Grouping Sets 2 = Optimized 3 = Cube 4 = Auto Determine

User preference name	Category	Description	Default value	Valid values
EUL Object Navigator	Application	Specifies whether the Available Items pane is displayed by default in Discoverer Plus Relational. If the Available Items pane is not displayed by default, end users can display it by choosing View | Available Items Pane. See also Selected Object Navigator for information about displaying and hiding the Selected Items pane.	1	0 = Do not display by default 1 = Display by default
EuroCountries	Application	Specifies a comma-separated list of Java locales (e.g. en_IE) for countries whose currency is the Euro.	A list of countries using the Euro (e.g. de,de_AT,de_DE,de_LI...)	Comma-separated list of Java locales (e.g. en_IE) for countries whose currency is the Euro.
ExcelExportWithMacros	Application	Specifies whether macros are exported with the exported Excel file. **Note:** Macros must be enabled for pivot tables to work.	1	0=Export without macros 1=Export with macros
Exception Format	Application	Specifies which HTML formatting to apply to exception formatted cells in worksheets.	'<fontFormat fontName='Dialog' pitch='11' bold='false' italic='false' underline='false' strikethrough='false' foreground='0,0,0' background='247,247,231' halign='left' valign='top' wordWrap='true'></fontFormat>'	User specified
ExportGroupSortedItemsAsBlank	Application	Specifies whether repeated values on the left side of a Discoverer crosstab worksheet are displayed, or replaced as NULL. For example, if you display Month in the left axis, you might want to repeat the month for each row so that when you export the worksheet to CSV format you export all required data.	1	0 = display repeated values 1 = display repeated values as NULL

User preference name	Category	Description	Default value	Valid values
ExportJoinFromMaster	Database	When exporting a business area, specifies whether joins from the master folder are also exported.	0	0 = Do export joins from master folder Any value other than 0 = Do not export joins from the master folder
ExportToWebQuery	Application	Specifies whether Discoverer Plus and Discoverer Viewer end users can export worksheets to Web Query (*.IQY) format. You typically add this preference and set the value to 0 to disable export to Web Query format. If this preference is not present or applied, the default value is 1. If export to Web Query is enabled, when Discoverer end users export a worksheet, they will see this format in the list of export types available. See also WebQueryBaseURL, EnableWebQueryRun.	1	0 = off 1 = on
genericHeaderScroll	Application	Specifies whether Discoverer Plus Relational enables end users to scroll in large headers. If crosstabs have large row headers, end users might have difficulty viewing the data unless they can scroll in the header.	false	false = do not enable scrolling in headers true = enable scrolling in headers
GraphAxesAutoScaledFromZero	Application	Specifies whether the default minimum value for the Graph axis scale is 0 or not. If set to 1, the minimum scale valueis set to 0, otherwise Discoverer chooses the minimum scale value automatically.	1	0 = do not scale to 0 1 = scale to 0
GraphDataModel	Application	Specifies the data model to use for showing scatter graphs.	0	0 = Discoverer Plus style 1 = Discoverer Desktop style 2 = Excel (table) style

User preference name	Category	Description	Default value	Valid values
GraphShowRollup Aggregates	Application	Specifies whether to plot 'rolled up' aggregates in graphs. For example, for an outline crosstab worksheet, you might want the graph to plot drilled down values but not the rolled up aggregate values. In other words, if you drill down into sales figures for 2003 to display monthly values, you might want the graph to have the monthly values (e.g. January, February) but not the aggregate value for 2003.	1	0 = no 1 = yes
Grid Line Color	Application	Specifies the default color of grid lines on graphs.	Black	User specified
Heading Format	Application	Specifies which HTML formatting to apply to heading cells in worksheets.	'<fontFormat fontName='Dialog' pitch='11' bold='false' italic='false' underline='false' strikethrough='false' foreground='0,0,0' background='247,247,231' halign='left' valign='top' wordWrap='true'></fontFormat>'	User specified
ItemClassDelay	Database	Specifies a timeout value in seconds for fetching a list of values.	15	User specified
MaterializedView RedirectionBehavior	Database	Specifies whether to use materialized view redirection.	0	0=always when available 1=always when summary data not stale 2=never

User preference name	Category	Description	Default value	Valid values
MaxRowsPerFetch	Database	Specifies the number of database rows retrieved in each fetch from the database, as follows: If the MaxRowsPerFetch value is greater than the RowsPerFetch value, use the RowsPerFetch value. If the MaxRowsPerFetch value is less than or equal to the RowsPerFetch value, use the MaxRowsPerFetch value. If the RowsPerFetch value is not set, use the MaxRowsPerFetch value. See also RowsPerFetch.	250	User specified Minimum=1 Maximum=1000
MaxVirtualDiskMem	Application	Specifies the maximum amount of disk memory (in bytes) allowed for the data cache. Minimum = 0. Maximum = 4 GB.	1024000000	User specified
MaxVirtualHeapMem	Application	Specifies maximum amount of heap memory (in bytes) allowed for the data cache. Minimum = 0. Maximum = 4 GB.	5120000	User specified
MeasurementUnits	Application	Specifies measurement units for worksheet margins in the Page Setup margins dialog and Column Width dialog (in Discoverer Plus). **Note**: Discoverer Viewer does not use points.	0	0 = points 1 = inches 2 = centimeters
MRUEnabled	Application	Specifies whether to display a list of recently used workbooks in Discoverer Plus Relational.	1	0 = disable 1 = enable
NonAggregableValue	Application	Specifies the default value that is displayed for non-aggregable cells in worksheet. A cell is classified as non-aggregable if the aggregation function being applied does not make sense for the values being aggregated.	"N/A"	User specified
NofityNewRunsOnConnect	Application	Specifies whether to notify an end user on login if new scheduled results are available.	0	0 = Do not notify when new scheduled workbook results are available 1 = Notify when new scheduled workbook results are available

User preference name	Category	Description	Default value	Valid values
NullValue	Application	Specifies how null values are displayed in worksheets, for example, 'NULL', 'N/A', '0'.	NULL	User specified
ObjectsAlwaysAccessible	Database	Specifies whether to display Business Area objects and items even when the underlying database tables they are built on do not exist (or are inaccessible for some other reason).	1	0=verify 1=do not verify and assume that the objects and items exist
PredictionThresholdSeconds	Database	Specifies a time threshold for warning Discoverer end users that the predicted query time will exceed this number of seconds.	60	User specified
PredictionThresholdSeconds Enabled	Database	Specifies whether to use PredictionThresholdSeconds.	1	0 = disabled 1 = enabled
PrintHeadersOnce	Application	Specifies whether column headers are printed for each page, or only for the first page. **Note**: Set this value to 1 to reduce the number of pages that Discoverer Plus generates (e.g. in a crosstab worksheet where headers are repeated often). **Hint**: For more information about reducing the size of a printed report, see the CellPadding preference.	0	0 = Print column headers for each page 1 = Print column headers once
PrintPercentageOfTitle	Application	Specifies the percentage of a worksheet title to print if the worksheet title is too long to print on a single page. For example, if set to 60, Discoverer truncates a long title to take up 60% of the page. If set to 0, no title is printed. If set to a value that is outside the range, Discoverer defaults to the nearest minimum or maximum value. For example, if set to 80, Discoverer defaults to the maximum value (i.e. 60).	60	User specified Minimum value is 0. Maximum value is 60.

User preference name	Category	Description	Default value	Valid values
ProtocolList	Application	Specifies a list of Internet protocols allowed for drill links in Discoverer Plus, which override the default Internet protocols for Discoverer Plus (i.e. HTTP, HTTPS, FTP). For example: ProtocolList=mailto,gopher,telnet,https. If this preference is present, only Internet protocols included in the list are allowed. For example, if this preference is set to ProtocolList=https, all other protocols (e.g. HTTP, FTP) are not allowed. If this preference is not present in the pref.txt file, Discoverer allows HTTP, HTTPS, and FTP.	N/A	User specified - any valid Internet protocol
QPPAvgCostTime Algorithm	Database	Specifies how to calculate the query prediction time based on query statistics.	2	1 = use five statistics above and below the computed estimate irrespective of cost 2 = use the nearest ten statistics based on the cost
QPPCBOEnforced	Database	Specifies whether to enforce cost based optimizer for query prediction SQL.	2	0 = Cost based optimizer not enforced for query prediction SQL 1 = Cost based optimizer enforced for query prediction SQL 2 = Cost based optimizer for query prediction SQL only enforced for databases older than version 8.1.7
QPPCreateNewStats	Database	Records new statistics if set to 1.	1	0 = false 1 = true
QPPEnable	Database	Uses query prediction/performance (QPP) if set to 1.	1	0 = false 1 = true
QPPLoadStatsByObjectUseKey	Database	Records statistics for same objects first if set to 1.	1	0 = false 1 = true

User preference name	Category	Description	Default value	Valid values
QPPMaxObjectUseKey	Database	Affects the amount of statistics to cache in memory for query prediction.	30	User specified
QPPMaxStats	Database	Only loads this many previous statistics.	500	User specified
QPPMinActCpuTime	Database	Only records or uses statistics with a CPU time greater than this value.	0	User specified
QPPMinActElapsedTime	Database	Only records or uses statistics with an actual elapsed time greater than this value.	0	User specified
QPPMinCost	Database	Only records or uses statistics with a cost greater than this value.	0	User specified
QPPMinEstElapsedTime	Database	Only records or uses statistics with an estimated elapsed time greater than this value.	0	User specified
QPPObtainCostMethod	Database	Controls how the cost of a query is obtained.	1	0 = uses explain plan to obtain the cost 1 = uses dynamic views to obtain the cost
QPPUseCpuTime	Database	Query prediction uses CPU time within its algorithm.	1	0 = false 1 = true
QueryBehavior	Application	Action to take after opening a workbook.	0	0 = Run Query Automatically 1 = Do not Run Query 2 = Ask for Confirmation
QuerySQLFastFetchLevel	Database	Controls the amount of pre-caching that occurs during SQL generation.	1	0 = no fast fetch 1 = fast fetch (slowest) 2 - fast fetch (medium) 3 - fast fetch (fast) 4 - fast fetch (super fast)
QueryTimeLimit	Database	Limit on query time in seconds.	1800	User specified Minimum=1 Maximum=N/A
QueryTimeLimitEnabled	Database	Query time limit disabled (0) or enabled (1).	1	0 = disabled 1 = enabled
RdbFastSQLOff	Database	Controls whether fast SQL option is turned off for an Oracle RDB database.	0	0 = off 1 = on

User preference name	Category	Description	Default value	Valid values
Row Headings	Table	Display row numbers on table worksheets.	0	0 = no 1 = yes
RowFetchLimit	Database	The maximum number of rows fetched.	10000	User specified Minimum=1 Maximum=N/A
RowFetchLimitEnabled	Database	RowFetchLimit parameter is disabled (0) or enabled (1).	1	0 = disabled 1 = enabled
RowsPerFetch	Database	The number of rows to fetch from the database at once. If the RowsPerFetch value is less than or equal to the MaxRowsPerFetch value, use the RowsPerFetch value. If the RowsPerFetch value is greater than the MaxRowsPerFetch value, use the MaxRowsPerFetch value. If the RowsPerFetch value is not set, use the MaxRowsPerFetch value.	250	User specified Minimum=1 Maximum=10000
RowsPerHTML	Session Manager	Specifies the number of rows to display in Discoverer Viewer before the next scroll. For example, if you have 10 rows of data, they are displayed over two pages in Discoverer Viewer.	25	User specified
SaveLastUsedParamValue	Application	When a workbook is saved, this preference specifies whether to save the most recently used parameter values, or to revert to the default parameter values when the workbook is next opened.	0	0 = Do not save the most recently used parameter values; use the default parameter value when the workbook is next opened. 1 = Save the most recently used parameter value and apply this value when the workbook is next opened.
ScatterGraphDataModel	Application	Specifies the data model to use for rendering scatter graphs in Discoverer.	0	0 = Discoverer Plus style 1 = Discoverer Desktop style 2 = Microsoft Excel style

User preference name	Category	Description	Default value	Valid values
Selected Object Navigator	Application	Specifies whether the Selected Items pane is displayed by default in Discoverer Plus Relational. If the Selected Items pane is not displayed by default, end users can display it by choosing View | Selected Items Pane. See also EUL Object Navigator for information about displaying and hiding the Available Items pane.	1	0 = Do not display by default 1 = Display by default
SetNULLItemHeadingOnBulkLoad	Database	When performing a bulk load, specifies whether item headings are set to the same value as item display names, or set to null.	0	0 = Set item headings to item display names 1 = Set item headings to null
Show Axis Grids	Crosstab	Specifies whether to display gridlines in item headings.	1	0 = false 1 = true
ShowDialogBitmaps	Application	End users see the bitmap graphics on Discoverer Plus dialogs.	1	0 = off 1 = on
ShowDrillIcon	Application	Show or hide drill icons in worksheets.	true	True False
ShowExpiredRunsOnExit	Application	Specifies whether to notify an end user on exit about expired and deleted scheduled results.	0	0 = Do not notify about expired and deleted scheduled workbook results 1 = Notify about expired and deleted scheduled workbook results
ShowFormatToolBar	Application	Specifies whether to display the Formatting toolbar by default in Discoverer Plus.	true	true = display toolbar false = do not display toolbar
ShowGraphToolBar	Application	Specifies whether to display the Graph toolbar by default in Discoverer Plus.	true	true = display toolbar false = do not display toolbar
ShowJoins	Application	Specifies whether to display join information in the Discoverer item navigator. For example, in the Available Items pane in Discoverer Plus.	false	true = display join information false = do not display join information

User preference name	Category	Description	Default value	Valid values
ShowStandardToolBar	Application	Specifies whether to display the Standard toolbar by default in Discoverer Plus.	true	true = display toolbar false = do not display toolbar
ShowTextArea	Application	Specifies whether to display the text area by default in Discoverer Plus (and Viewer).	true	0 = Off 1 = On
ShowTitle	Application	Specifies whether to display the title area by default in Discoverer Plus (and Viewer).	true	0 = Off 1 = On
SQLTrace	Database	Specifies whether Discoverer copies SQL statements to a trace file for analysis. For more information, see the *Oracle Business Intelligence Discoverer Administration Guide*.	0	0 = false 1 = true
SQLFlatten	Database	Specifies whether Discoverer attempts to flatten the SQL, minimizing the use of inline views in the query SQL. For more information, see the *Oracle Business Intelligence Discoverer Administration Guide*.	1	0 = false 1 = true
SQLItemTrim	Database	Specifies whether Discoverer attempts to trim the SQL for irrelevant or unused items. For more information, see the *Oracle Business Intelligence Discoverer Administration Guide*.	1	0 = false 1 = true
SQLJoinTrim	Database	Specifies whether Discoverer attempts to remove the unused joins from the SQL. For more information, see the *Oracle Business Intelligence Discoverer Administration Guide*.	1	0 = false 1 = true
SQLType	Database	Specifies the SQL style displayed in the SQL Inspector dialog in Discoverer Plus. For more information, see the *Oracle Business Intelligence Discoverer Administration Guide*.	2	0 = Flattened 2 = Default SQL with no flattening 3 = Flattened SQL without Object Aliases
SummaryObjectsUseCachedAccessibility	Database	Specifies whether to access the summary-derived objects in the cache.	0	0 = disabled 1 = enabled
SummaryThreshold	Database	Use summary table only if it is no older than this number of days.	60	User specified or 0 = do not use summary at all

User preference name	Category	Description	Default value	Valid values
SummaryThresholdEnabled	Database	If enabled (1), will use the value specified by SummaryThreshold. Otherwise, Discoverer will always use summary tables if they are available.	1	0 = disabled 1 = enabled
Timeout	Session Manager	Amount of time (in seconds) after which Discoverer Plus disconnects an idle session. Minimum time is 180 seconds (for more information, see Section 10.6.2, "About setting the timeout value for Discoverer"). To set the timeout for Discoverer Viewer, you set the session-timeout value in the web.xml file (for more information, see Section 10.6.3, "How to set the timeout value for Discoverer Viewer").	1800	User specified Minimum = 180
Totals Format	Application	Applies HTML formatting to cells that contain totals in worksheets.	"<fontFormat fontName="Dialog" pitch="11" bold="false" italic="false" underline="false" strikethrough="false" foreground="0,0,0" background="247,247,231" halign="right" valign="top" wordWrap="true"></fontFormat>"	User specified
UseOptimizerHints	Database	Specifies whether to add optimized hints to SQL.	0	0 = off 1 = on
WebQueryBaseURL	Application	Specifies the base Discoverer URL (e.g. "http://machine-name:port#/discoverer/viewer"). If not present or applied, Discoverer uses the default Discoverer Viewer URL. See also ExportToWebQuery, EnableWebQueryRun.	<Discoverer Viewer URL>	User specified

10.6.1 About the EnhancedAggregationStrategy user preference setting

The EnhancedAggregationStrategy user preference controls how Discoverer Plus and Discoverer Viewer make use of the Oracle9*i* (and later) database's enhanced aggregation functionality.

The settings control the SQL that is generated for the query, and specify whether there should be an exact match between client request and the aggregation levels retrieved

from the database, or whether more aggregation levels are retrieved from the database than are requested by the client.

The table below explains the EnhancedAggregationStrategy user preference settings in more detail:

Value	Description
0	Off The generated SQL contains an ordinary GROUP BY clause.
1	Strict Grouping Sets The generated SQL contains GROUPING SET requests that exactly match the GROUPING SET requests made by Discoverer. The requests that Discoverer makes are determined by how the end user created the worksheet. For example, the generated GROUP BY clause might be similar to the following: GROUP BY GROUPING SETS((Department, Region, Year),(Department),()) **Note**: This value (the default) might be used if you want to maximize performance.
2	Optimized The generated SQL contains GROUPING SET requests with additional ROLLUP functions. The use of ROLLUP functions enables the SQL to fetch more aggregation levels than requested by Discoverer. This typically enables the end user to add totals or pivot without needing to re-query the database. For example, the generated GROUP BY clause might be similar to the following: GROUP BY GROUPING SETS(ROLLUP(Department, Region, Year), ROLLUP(Region, Year)) **Note**: This value might be used if worksheet users do a lot of drilling or pivoting when using worksheets.
3	Cube The generated SQL contains a Grouping Set request for a CUBE of the items requested. This is the highest pre-fetch strategy for aggregation levels from the database and should be used with caution as there might be a severe performance overhead in increased query time and resource usage. For example, the generated GROUP BY clause might be similar to the following: GROUP BY GROUPING SETS(CUBE(Department, Region, Year))
4	Auto Determine Discoverer automatically determines which of the above strategies to use (i.e. 1, 2, or 3 above).

10.6.2 About setting the timeout value for Discoverer

You specify a Discoverer timeout if you want Discoverer sessions to shut down automatically after a specified time period if no user interaction has occurred during that time. Before Discoverer shuts down, a warning message is displayed. For example, if a Discoverer session is not used for ten minutes, the Discoverer session will shut down. The Discoverer end user will have to reconnect to use Discoverer again.

Discoverer timeout values are specified as follows:

- In Discoverer Plus, the Timeout value in the pref.txt file specifies the timeout value (for more information, see the Timeout preference in Section 10.6, "List of Discoverer user preferences").

- In Discoverer Viewer, the session-timeout value in the web.xml files specifies the timeout value (for more information, see Section 10.6.3, "How to set the timeout value for Discoverer Viewer").

10.6.3 How to set the timeout value for Discoverer Viewer

To set the timeout value for Discoverer Viewer:

1. Open the web.xml file in a text editor or XML editor (for more information about the location of configuration files, see Section A.1, "List of Discoverer file locations").
2. Look for a session-timeout tag, e.g.

   ```
   <session-timeout>10</session-timeout>
   ```

   - If the web.xml file contains a session-config tag, update the session-timeout value as required (in minutes).
   - If the web.xml file does not contain a session-config tab, add the following text to the end of the file, immediately before the closing </web/app>:

     ```
     <session-config>
     <session-timeout>10</session-timeout>
     </session-config>
     ```

     Note: Change the value '10' (i.e. ten minutes) as required.
3. Save the web.xml file.
4. Restart the Discoverer components (for more information, see Section 5.5, "How to start and stop the Discoverer servlets").

   When users next start Discoverer Viewer, Discoverer will impose the specified timeout value.

10.7 How to convert a Discoverer preferences file to a different platform format

Oracle Business Intelligence Discoverer stores registry settings in the reg_key.dc file. If you want to move a Discoverer installation from one platform to another platform (e.g from Windows to Solaris), you must convert the reg_key.dc file to change the format of integer values (e.g. from BigEndian format to LittleEndian format). You change the format of integer values using the convertreg.pl script that is installed with Oracle Business Intelligence. For more information about the location of configuration files, see Section A.1, "List of Discoverer file locations".

You must convert the reg_key.dc file when you move between the following platforms:

- Windows/Linux to Solaris/HPUX/AIX
- Solaris/HPUX/AIX to Windows/Linux

Note: Do not use the convertreg.pl script to convert the reg_key.dc file between Windows to Linux.

To convert a Discoverer preferences file to a different platform format:

1. Copy the reg_key.dc file from the source machine to the target machine (e.g. from the Windows machine to a Solaris machine).

2. On the target Oracle Business Intelligence installation, run the convertreg.pl script at the command prompt:

   ```
   perl convertreg.pl <old file name> <new file name>
   ```

   Where:

   - <old file name> is the name of the original reg_key.dc file
   - <new file name> is the name that you want to give the file produced by the convertreg.pl script

   Note: For more information about the location of configuration files, see Section A.1, "List of Discoverer file locations".

   For example, if the source file is called windows_reg_key.dc, you might type:

   ```
   pl convertreg.pl windows_reg_key.dc solaris_reg_key.dc
   ```

3. If required, rename the target file.

   If you named the target file solaris_reg_key.dc, rename this file as reg_key.dc.

You have now converted the reg_key.dc to the correct format for the target platform.

10.8 About migrating Discoverer preferences

You migrate OracleBI Discoverer preferences when you want to upgrade to a new version of Discoverer. For example, you might want to upgrade from OracleBI Discoverer Version 9.0.4 to OracleBI Discoverer Version 10.1.2.

How you migrate Discoverer preferences depends on which version of Discoverer you are using, as follows:

- if you are upgrading from OracleBI Discoverer Version 9.0.2 or 9.0.4 to OracleBI Discoverer Version 10.1.2, use the OracleAS Upgrade Assistant (for more information about using the OracleAS Upgrade Assistant, see Section B.6, "How to upgrade from Discoverer Version 9.0.2/9.0.4")
- if you are upgrading from Discoverer Version 4.1 to OracleBI Discoverer Version 10.1.2, you manually copy preference files (for more information, see Section B.7, "How to upgrade from Discoverer Release 4.1")

11

Using OracleBI Discoverer with OracleAS Portal

Note: This chapter only applies if the Discoverer installation is associated with an OracleAS Infrastructure. For more information, see Section 2.1, "About installing Oracle Business Intelligence".

If the Discoverer installation is associated with a 9.0.4 OracleAS Infrastructure, the Metadata Repository (MR) must be configured to work with 10.1.2 Discoverer portlets (for more information, see Section 2.3, "How to upgrade a 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2 and Oracle Portal 10.1.2").

This chapter describes how to use OracleBI Discoverer with OracleAS Portal, and contains the following topics:

11.1 What is OracleAS Portal?

Oracle Application Server Portal is a component of Oracle Application Server that is used for the development, deployment, administration, and configuration of enterprise-class portals. OracleAS Portal incorporates a portal-building framework with self-service publishing features that enable you to create, publish, and manage information within your portal. Your portal can publish information from your database and other sources, provide and gather information from internal and external customers, and manage the content they will consume.

A portal is made up of groups of pages hosting many different types of content that come from many different sources, all presented from a single location, the portal. The basic structural components of a portal built with OracleAS Portal include page groups, pages, tabs, regions, portlets, and items.

Portlets are reusable information components that summarize or provide access to different types of information sources. You can customize the appearance of portlets on a per user or per group basis. Examples of portlets include a dynamically updated report of quarterly earnings, a Discoverer worksheet, a search field and button, or a simple user poll.

The Discoverer Portlet Provider is the content delivery mechanism used to publish Discoverer data in OracleAS Portal. The Discoverer Portlet Provider enables portal users to publish three types of Discoverer portlet:

- a Worksheet portlet, which displays a Discoverer worksheet and an Analyze link that displays the worksheet in Discoverer Viewer
- a List of Worksheets portlet, which displays links to Discoverer worksheets
- a Gauges portlet, which displays Discoverer worksheet data as one or more semi-circular gauges. The gauges have a similar appearance to a speedometer.

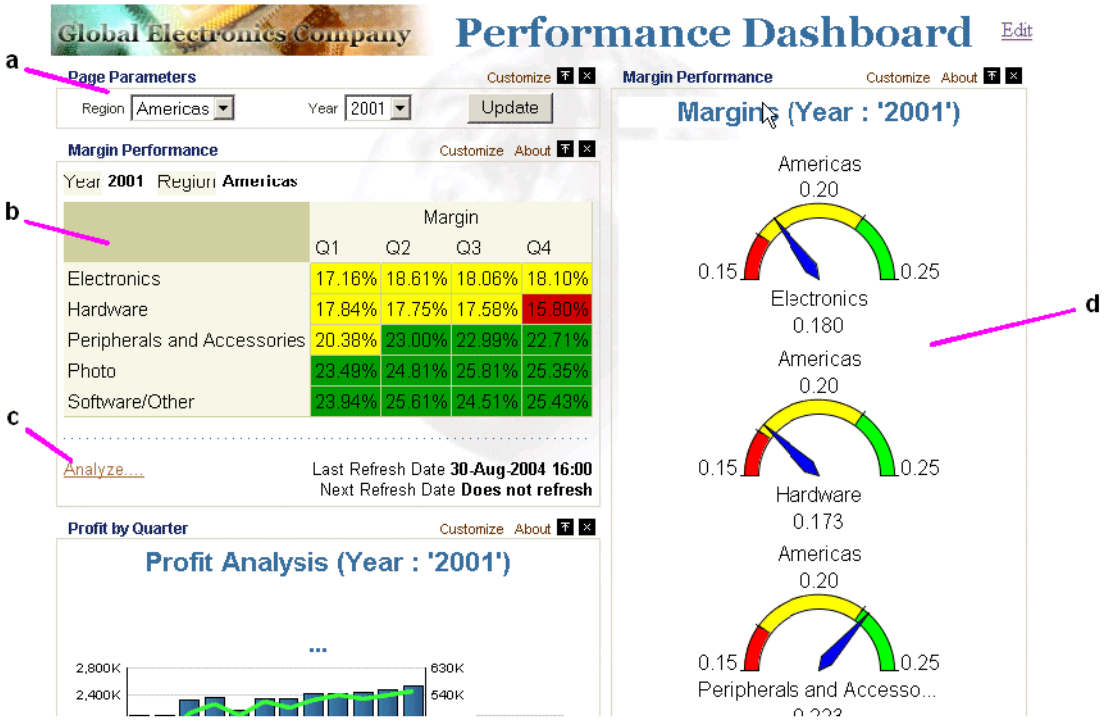
Note: For information about how to create Discoverer portlets, see *Oracle Business Intelligence Discoverer Plus User's Guide*.

The figure below shows a portal page containing a Discoverer List of Worksheets portlet called Analyze Sales Reports (highlighted). Analyze Sales Reports contains links to Discoverer worksheets that enable portal users to start Discoverer Viewer and quickly access Discoverer reports.

Figure 11–1 An OracleAS Portal containing a List of Worksheets portlet

You can also use Discoverer portlets in dashboard applications (see figure below).

Figure 11–2 A dashboard application featuring Discoverer portlets



Key to figure:
a. A Simple Parameter Form portlet.
b. A Discoverer Worksheet portlet.
c. An Analyze link that displays the worksheet in Discoverer Viewer. Displaying this link is optional.
d. A Discoverer Gauges portlet.

Notes

- For more information about OracleAS Portal, see *Oracle Application Server Portal Configuration Guide*.
- For relational worksheets, you can display worksheet data and/or graph data. For multidimensional worksheets, you display worksheet data and graph data.
- For more information about how OracleBI Discoverer works with OracleAS Portal and OracleAS Single Sign-On, see Section 14.7.2.3, "An example showing how Discoverer works with OracleAS Portal and Single Sign-On".
- To use Discoverer with OracleAS Portal, make sure that the OssoIPCheck parameter value in the mod_osso.conf file is set to FALSE (for more information about the location of configuration files, see Section A.1, "List of Discoverer file locations").

11.2 How to use OracleBI Discoverer with OracleAS Portal

Before portal users can add Discoverer portlets in OracleAS Portal, you must register the Discoverer Portlet Provider with OracleAS Portal.

You register the Discoverer Portlet Provider using the Add Portlet Provider page in OracleAS Portal.

To use OracleBI Discoverer with OracleAS Portal, do the following:

1. (optional) Make sure that Discoverer Portlet Provider is installed correctly by entering the following URL in an Internet browser:

   http://<*host.domain*>:<*port*>/discoverer/portletprovider/

   If Discoverer Portlet Provider is installed correctly, you will see the JPDK Test Page, which displays the message 'Congratulations! You have successfully reached your Provider's Test Page', and lists the Discoverer portlet types available.

2. Register Discoverer Portlet Provider with OracleAS Portal (for more information, see Section 11.3, "How to register Discoverer Portlet Provider with OracleAS Portal").

   Note: This task must be done once during or after an Oracle Business Intelligence standalone CD installation.

3. Use OracleAS Portal to add Discoverer portlets to portal pages, which is typically done by Discoverer Plus or Discoverer Viewer users

   For more information about how to add Discoverer portlets to portal pages, see *Oracle Business Intelligence Discoverer Plus User's Guide.*

11.3 How to register Discoverer Portlet Provider with OracleAS Portal

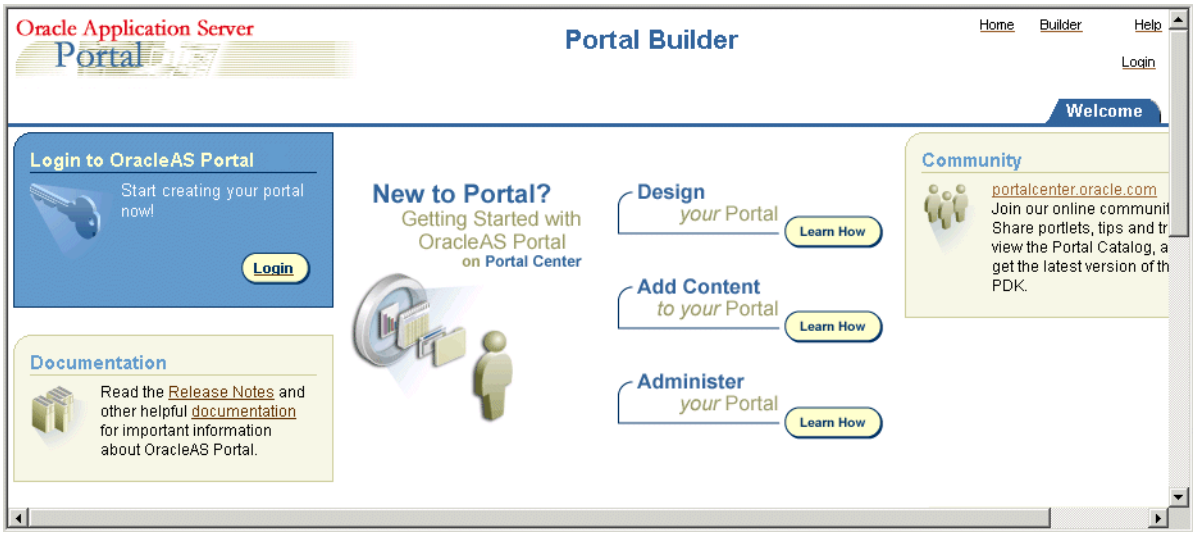
You register Discoverer Portlet Provider to enable OracleAS Portal end users to add Discoverer business intelligence portlets to their portal pages.

To register Discoverer Portlet Provider with OracleAS Portal:

1. Start a Web browser and enter the URL for OracleAS Portal.

   For example:

   http://<*host.domain*>:<*port*>/pls/portal

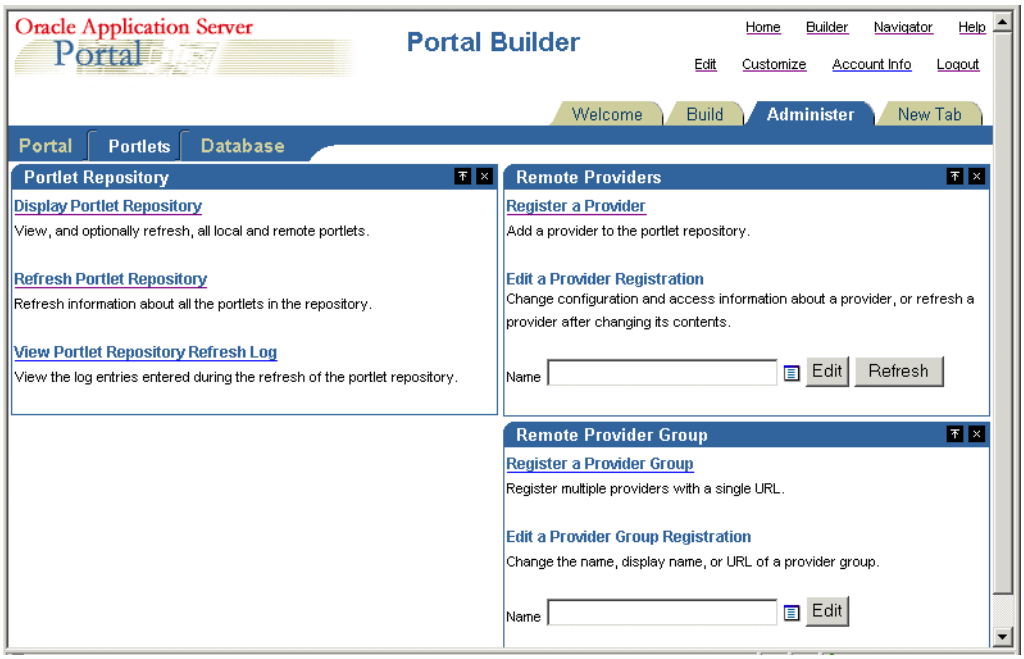


   If you have difficulty displaying the OracleAS Portal main page, contact the OracleAS Portal administrator.

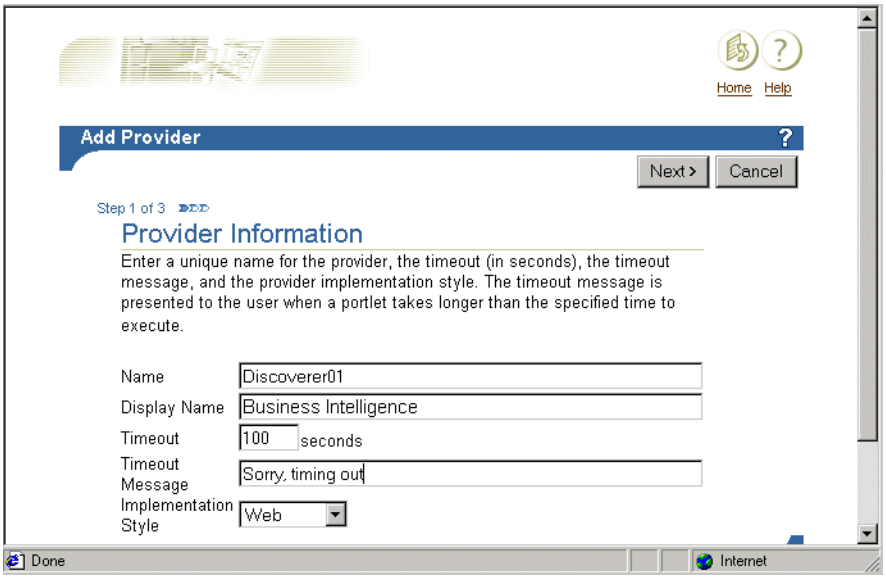
2. Select the **Login** link and connect as a Portal administrator.

3. Display the Administer tab.

4. Display the Portlets sub-tab.



5. Select the **Register a Provider** link to display the Provider Information page.



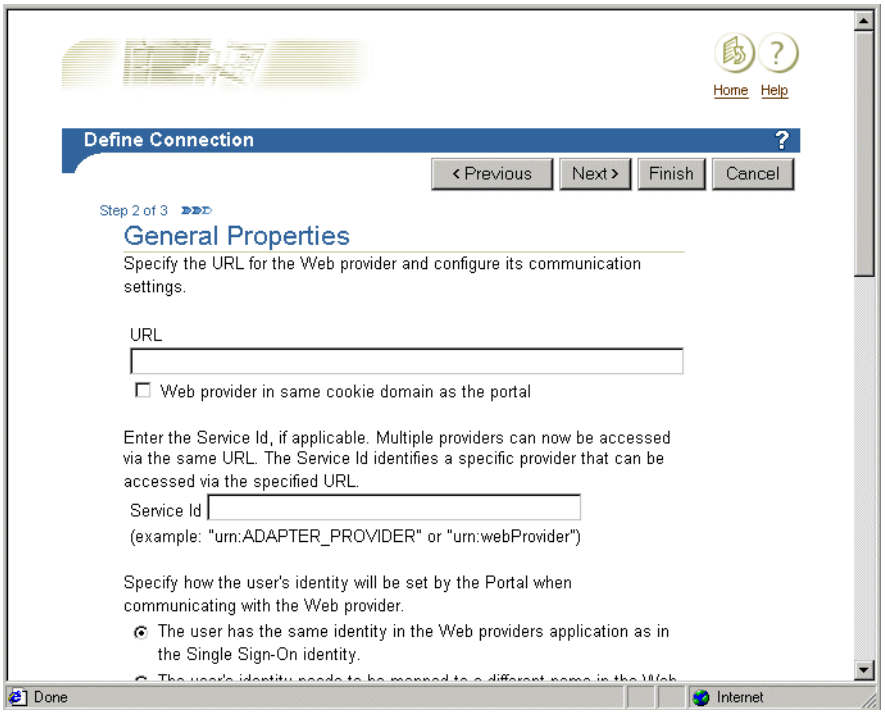
6. Enter the Discoverer Portlet Provider details.

   You can enter any name and display name for the Discoverer Portlet Provider as required. The name and display name can be different.

   Hint: Give the Portlet Provider a useful display name because users will see this when they add a Discoverer portlet to a portal page.

7. Choose Web from the **Implementation Style** drop down list.

8. Click Next to display the Define Connection - General Properties page.



9. Enter the Portlet Provider general properties as follows:

   a. Enter the URL of the Discoverer Portlet Provider in the **URL** field, in the form:

      <http | https>://<*host.domain*>:<*port*>/discoverer/portletprovider

      For example, http://myserver:80/discoverer/portletprovider.

      Note: If you are deploying Oracle Business Intelligence in a HTTPS environment, specify a HTTPS URL in the **URL** field here. In other words, when an OracleAS Portal user selects the **Analyze** link beneath a Discoverer portlet, Discoverer Viewer will be invoked in HTTPS mode.

   b. Clear the **Web Provider in same cookie domain as the portal** check box.

   c. Select the **The user has the same identity in the Web providers application as in the Single Sign-On identity** radio button.

   d. In the User/Session Information area, select the **User** radio button, and select the Once Per User Session option from the **Login Frequency** field.

      Note: Do not change the default value of other fields.

10. Click Next to display the Control Access page.

11. (optional) Change the default access control settings if necessary.
12. Click Finish.

End users can now use the Discoverer Portlet Provider to add portlets to an OracleAS Portal page.

Note: For information about how to create Discoverer portlets, see *Oracle Business Intelligence Discoverer Plus User's Guide*.

Notes

- If Discoverer end users need to publish workbooks and worksheets using a public connection, use Oracle Application Server Control to create a public connection that they can use (for more information about creating public connections, see Section 4.6, "How to create public connections").

11.4 How to edit the Discoverer Portlet Provider

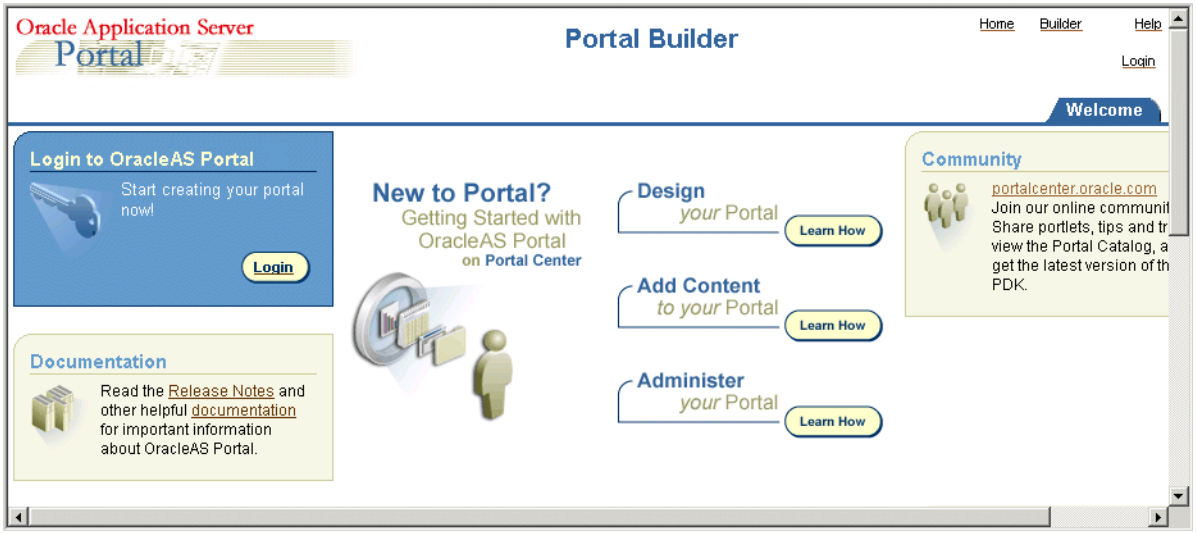
You edit the Discoverer Portlet Provider when you want to change the way that it works. For example, you might want to change the Discoverer Portlet Provider Display Name, or change its Control Access settings.

To edit the Discoverer Portlet Provider:

1. Start a Web browser and enter the URL for the OracleAS Portal main page main page.

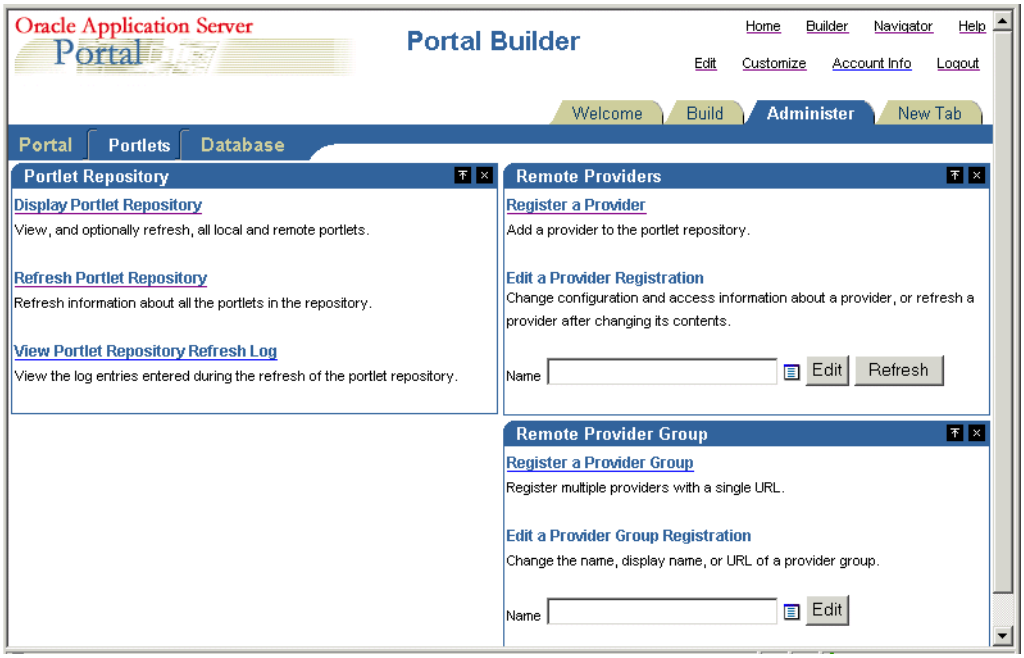
   For example:

   http://<*host.domain*>:<*port*>/pls/portal



If you have difficulty displaying the OracleAS Portal main page, contact the OracleAS Portal administrator.

2. Select the **Login** link and connect as a Portal administrator.
3. Display the Administer tab.
4. Display the Portlets sub-tab.



5. In the **Remote Providers** area, enter the name of the Discoverer Portlet Provider (i.e. its display name) in the **Name** field, and click Edit to display the Provider Information page.

   Hint: If you are not sure of the display name of the Discoverer Portlet Provider, do the following:

   a. Click the Browse Providers icon to the right of the **Name** field.

b. Choose the Discoverer Portlet Provider name from the list of Portlet Providers displayed.

   Hint: The name that you choose is the display name that was specified when you registered the Discoverer Portlet Provider (for more information, see Section 11.3, "How to register Discoverer Portlet Provider with OracleAS Portal").

c. Click Edit to display the Edit Portlet Provider page.

6. Make the necessary changes, as follows:
   - use the Main tab to change provider information (e.g. the display name of the Discoverer Portlet Provider)
   - use the Connection tab to change general properties (e.g. the URL of the Discoverer Portlet Provider)
   - use the Access tab to change the access privileges (e.g. the control access settings of the Discoverer Portlet Provider)
7. Click OK to save the changes you have made.

The Discoverer Portlet Provider is updated according to the changes you have made.

12

Optimizing OracleBI Discoverer performance and scalability

Note: This chapter only applies to Discoverer Plus and Discoverer Viewer. For more information about configuring Discoverer Plus OLAP, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".

This chapter describes how to optimize Discoverer performance and scalability, and contains the following topics:

12.1 About Discoverer and performance

The performance of a Discoverer system refers to the time Discoverer takes to complete a specific task. Performance time might be the time taken to:

- return the results of a query (i.e. display a worksheet)
- perform a pivot or drill
- add a new user to the system

12.2 About Discoverer and scalability

The scalability of a Discoverer system refers to Discoverer's ability to handle increasing numbers of users or tasks without compromising performance.

To take advantage of Discoverer's inherently scalable architecture, you can install Discoverer on multiple machines and share the workload between those machines. For more information, see Chapter 7, "Installing OracleBI Discoverer in a multiple machine environment".

The main factors that determine Discoverer's scalability are:

- the number of server CPUs
- the distribution of processing across CPUs
- the total server memory (both RAM and virtual memory)
- the specific tasks requested by each user (individual workload)

- the number of Discoverer middle tier machines

12.3 How to improve Discoverer performance

Discoverer performance is largely determined by how well the database has been designed and tuned for queries. A well-designed database will perform significantly better than a poorly designed database. In addition, you can achieve significant performance improvements by making appropriate use of:

- summary tables and materialized views
- indexes
- database parameter settings
- network bandwidth

In addition to a well-designed and well-tuned database, there are some things you can do within Discoverer to improve performance, as described in the following sections:

12.3.1 How to improve Discoverer performance by using worksheets and page items appropriately

The time that Discoverer takes to query and display data depends on the worksheet layout (i.e. table or crosstab) and whether the worksheet layout uses page items.

For example:

- When populating a tabular worksheet that does not contain page items, Discoverer uses incremental fetch (e.g. retrieves rows 100 at a time) and therefore does not need to load the entire results set, which might be much larger.

  Data for tabular layouts that do not contain page items is displayed faster because Discoverer does not index cached items as it would if the page items were displayed.

- When populating a table worksheet that contains page items or a crosstab worksheet, Discoverer will take longer to display the data, regardless of the number of rows fetched at a time. The data takes longer to display because Discoverer spends additional time creating an index by page item on the cached results set.

To enhance performance, encourage Discoverer Plus users to follow these guidelines when designing Discoverer workbooks:

- use tabular reports rather than crosstab reports
- minimize the number of page items in reports
- avoid wide crosstab reports
- avoid creating reports that return tens of thousands of rows
- provide parameters to reduce the amount of data produced
- minimize the number of worksheets in workbooks
- remove extraneous worksheets from workbooks (especially if end users frequently use Discoverer's export option)

  Note: When end users export data in Discoverer Plus or Discoverer Viewer, they can export either the current worksheet or all the worksheets. In other words, they cannot selectively choose the worksheets to be exported. Remove extraneous worksheets so that extra data is not included when end users export all worksheets.

The following worksheet setups all increase the overhead in index creation and therefore affect Discoverer performance:

- wide crosstabs
- page axis items
- page axis items with a large number of values

12.3.2 How to improve Discoverer performance by reducing the time taken to display business areas and folders

When a Discoverer Plus end user builds a query, Discoverer displays a list of the business areas, folders, and items to which that user has access in the Discoverer Plus Item Navigator (for more information, see *Oracle Business Intelligence Discoverer Plus User's Guide*). Before displaying the list, Discoverer makes a database security check to confirm that the user has access to the tables referenced in the folders. Although the security check makes sure that the user cannot create workbooks that they cannot run, the security check can increase the time taken to display the list, because the check is done for all business areas and folders.

To defer the database security check, edit the pref.txt file and set ObjectsAlwaysAccessible to 1 as follows:

ObjectsAlwaysAccessible = 1

Note: After editing the pref.txt file, you must run the applypreferences script to apply the preference changes you have made (for more information, see Section 10.4, "How to set default user preferences for all users"). Then stop and restart the OracleBI Discoverer service (for more information, see Section 5.3, "About starting and stopping the Discoverer Service").

If the value of ObjectAlwaysAccessible is not 0, Discoverer does not perform the security check at the time that the query is built and assumes that the tables are accessible.

Note: Database security is always respected. The security check is made when the query runs, instead of when the query is built.

As a result, Discoverer displays the list of folders more quickly. Disabling the security check is likely to be more appropriate on systems where users' access rights change relatively infrequently.

Note: If a user selects a folder based on a table to which they do not have database access, Discoverer ensures database security when the query runs and no rows are returned.

12.3.3 How to improve Discoverer performance by using summary folders

When used correctly, Discoverer summary folders significantly improve query response times. For example, queries that use summary folders might take only seconds to run, whereas queries that return the same result set but do not use summary folders might take several hours. Summary folder management is the key to good performance with Discoverer implementations.

Summary folders can be based on materialized views or summary tables, with the following differences in behavior:

- if a Discoverer query includes a summary folder that is based on a materialized view, the database automatically rewrites the query to use the materialized view
- if a Discoverer query includes a summary folder that is based on a summary table, Discoverer automatically rewrites the query to use the summary table (providing the summary table has been registered with the EUL)

Use the SQL Inspector dialog to view the path taken by the query, and to find out whether the database has rewritten the query.

For more information about how Discoverer manages summary folders, see *Oracle Business Intelligence Discoverer Administration Guide*.

12.3.4 How to improve query performance by optimizing the SQL that Discoverer generates

To improve query performance Discoverer optimizes the SQL that it generates, in the following three areas:

- item trimming

  Discoverer removes references to irrelevant or unused columns and expressions in the query SQL, improving performance. To enable item trimming, set the value of the user preference SQLItemTrim to 1.

- join trimming

Discoverer detects and eliminates joins (where possible) from queries without affecting the result set, which improves query performance. To enable join trimming, set the value of the user preference SQLJoinTrim to 1.

- flattening

  Discoverer minimizes the use of inline views in the query SQL, which makes it easier for the database to efficiently parse the SQL and select an optimal execution path. To enable flattening, set the value of the user preference SQLFlatten to 1.

For more information about:

- the user preferences SQLItemTrim, SQLJoinTrim, SQLFlatten, see Section 10.6, "List of Discoverer user preferences"
- the join properties to choose to improve performance, see the *Oracle Business Intelligence Discoverer Administration Guide*

12.3.5 How to improve Discoverer performance by using Discoverer Administrator hints

To improve Discoverer performance, you can add hints to SQL statements (e.g. using a custom folder) in Discoverer Administrator to force the database optimizer to use a specific path. For more information, see *Oracle Business Intelligence Discoverer Administration Guide*.

12.3.6 How to improve Discoverer performance by setting the Case Storage item property appropriately

When a user adds a condition to a query, they can select the **Match Case** option. If the **Match Case** option is cleared, Discoverer performs a case insensitive search by placing an Upper function around both sides of the condition. For example, a condition such as:

```
where Department in ('VIDEO SALES', 'VIDEO RENTALS')
```

becomes:

```
where Upper(Department) in (Upper('VIDEO SALES'), Upper('VIDEO RENTALS'))
```

However, using an UPPER function makes it impossible to use a database index (and the performance benefits of using an index are therefore not available).

If you know that the data is stored in the database as all uppercase or all lowercase, you can manage this issue by using Discoverer Administrator to set the **Case Storage** property of items.

For example, you might know that all the Region data is stored in uppercase in the database. In Discoverer Administrator, set the **Case Storage** property of the Region item to Uppercase. Discoverer now assumes that the data is stored in uppercase and does not put the UPPER function on the left hand side of the condition (i.e. around the column name). So the original condition:

```
where Department in ('VIDEO SALES', 'VIDEO RENTALS')
```

becomes:

```
where Department in (Upper('VIDEO SALES'), Upper('VIDEO RENTALS'))
```

Because the UPPER function is not around the column name, the query will use whatever database indexes are available.

12.3.7 How to improve Discoverer performance by increasing the size of the array used to fetch rows from the database

If it is likely that Discoverer will fetch large numbers of rows (e.g. in the order of thousands) from the database, you can improve performance by increasing the size of the array that Discoverer uses to fetch the rows.

To change the default size of the array, edit the pref.txt file and set RowsPerFetch to the required value, as follows:

RowsPerFetch = *<array size>*

If you anticipate Discoverer retrieving thousands of rows, set RowsPerFetch to 500 or 1000 to increase the size of the array.

Note: Discoverer end users can override the default value specified by RowsPerFetch in pref.txt as follows:

- in Discoverer Plus, by choosing Tools | Options | Query Governor, and using the **Retrieve data incrementally in groups of** field
- in Discoverer Viewer, by selecting the **Preferences** link to display the Preferences page, and using the **Retrieve data incrementally in groups of** field

Notes

- In the case of table worksheets, there is a trade-off between perceived performance and actual performance. Table worksheets display the data immediately after the first array is retrieved. If RowsPerFetch is set to 100, a Discoverer end user sees the first 100 rows more quickly than if RowsPerFetch is set to 1000.
- After editing the pref.txt file, you must run the applypreferences script to apply the preference changes you have made (for more information, see Section 10.4, "How to set default user preferences for all users"). Then stop and restart the OracleBI Discoverer service (for more information, see Section 5.3, "About starting and stopping the Discoverer Service").

12.3.8 How to improve Discoverer performance by basing lists of values on tables containing distinct values

By default, a Discoverer list of values (LOV) is populated using a SELECT DISTINCT statement in the query on the underlying data table. To populate the LOV, all of the rows must be scanned before the list of distinct values can be displayed. However, this default query is inefficient if the LOV is populated from a column that has a large number of rows but relatively few distinct values.

To improve performance, avoid creating LOVs on items based on columns in the fact table. Instead, consider the following options:

- Create LOVs for items based on columns in small 'dimension' tables (containing only distinct allowable values) attached to the fact table. If such tables do not already exist, create and populate them using SQL*PLus.
- If the list of allowable values is small and/or changes relatively infrequently, define the LOV within Discoverer Administrator by creating a custom folder based on SQL statements that select the allowable values from SYS.DUAL.

  For example, to create an LOV that contains all regions in the Video Stores data, you might:

  1. Create a custom folder to list all regions and based on the following SQL statement:

```
Select 'NORTH' Region FROM sys.dual
UNION
Select 'SOUTH' Region FROM sys.dual
UNION
Select 'EAST' Region FROM sys.dual
UNION
Select 'WEST' Region FROM sys.dual
```

2. Edit the item class for the Region item so that it uses the above custom folder for its list of values.

   For more information about how to create custom folders and item classes, see *Oracle Business Intelligence Discoverer Administration Guide.*

12.3.9 How to improve Discoverer performance by changing cache settings for your system

Data retrieved from the database is stored in a middle tier Discoverer cache for each user session. The cache supports Discoverer's rotation, drilling, and local calculation capabilities.

You can control the performance of the cache using the following settings in the pref.txt file (for more information about the location of configuration files, see Section A.1, "List of Discoverer file locations"):

Setting name	Default value	Description
CacheFlushPercentage	25	Percentage of cache flushed, if cache is full.
MaxVirtualDiskMem	1024000000	Maximum amount of disk memory allowed for the data cache
MaxVirtualHeapMem	5120000	Maximum amount of heap memory allowed for the data cache.

The default settings for the cache are large to enable Discoverer to take advantage of the available memory. If the system has more resources available, you can increase the default memory values (although this is only likely to be beneficial for users whose queries return large result sets). Note that the default values are the requirements for each user, but you can change the values for specific users using the Discoverer preferences command line utility dis51pr (for more information, see Section 10.5, "How to set individual preferences for specific users").

Notes

- After editing the pref.txt file, you must run the applypreferences script to apply the preference changes you have made, then stop and restart the OracleBI Discoverer service (for more information, see Section 5.3, "About starting and stopping the Discoverer Service").
- An increase in the system resources available to one Discoverer user might have a detrimental impact on other Discoverer users, or on users of other OracleAS applications.

12.3.10 How to improve Discoverer performance by scheduling worksheets to run overnight

If your data needs to be accurate on a daily basis, you can improve Discoverer performance by scheduling worksheets to be processed at off-peak times, which

avoids overburdening the server during peak times. For more information about scheduling workbooks, see the *Oracle Business Intelligence Discoverer Plus User's Guide*.

12.3.11 How to improve Discoverer Viewer performance by using OracleAS Web Cache

If your workbooks remain relatively stable, OracleAS Web Cache can greatly improve Discoverer Viewer performance. For more information about OracleAS Web Cache, see Chapter 8, "Using OracleBI Discoverer Viewer with OracleAS Web Cache".

12.3.12 How to improve Discoverer Portlet Provider performance

To improve the performance of Discoverer Portlet Provider, you adjust the value of the following settings on the Discoverer Portlet Provider Configuration page in Oracle Application Server Control:

- Maximum Sessions (e.g. 20)
- Maximum Session Inactivity (e.g. 10)
- Maximum Session Age (e.g. 2)
- Maximum Wait Time (e.g. 120)

For more information, see Section 5.6.1, "How to change configuration options for individual Discoverer client tier components".

Note: You can also specify the maximum number of Discoverer sessions that can run at the same time (for Discoverer Plus, Discoverer Viewer, and Discoverer Portlet Provider) by setting the value of the maxprocs setting in opmn.xml (for more information, see Section A.2, "List of configuration settings in configuration.xml" and Section A.3, "List of configuration settings in opmn.xml").

12.3.13 Troubleshooting Discoverer performance and scalability

If you have tried the performance tips in this section and still have performance issues, you might want to try one or more of the following:

- If Discoverer's query prediction feature is affecting Discoverer's performance, first try changing the query prediction mode to use an explain plan. If changing the query prediction mode to use an explain plan does not improve performance, turn off query prediction.

  To change query prediction mode to use an explain plan in Discoverer Plus, set the value of the QPPObtainCostMethod preference to 0 (for more information, see Section 10.4, "How to set default user preferences for all users").

  To turn off query prediction in Discoverer Plus, set the value of the QPPEnable preference to 0 (for more information, see Section 10.4, "How to set default user preferences for all users"). For more information about query prediction, see *Oracle Business Intelligence Discoverer Administration Guide*.

- Make sure that summaries are refreshed when necessary in Discoverer Administrator. For more information, see *Oracle Business Intelligence Discoverer Administration Guide*.

- Increase the amount of memory available for the Discoverer data cache (using the MaxVirtualDiskMem preference in pref.txt). For more information, see Section 10.4, "How to set default user preferences for all users".

- If Discoverer's workbook dialogs are slow to update (e.g. the Open Workbook from Database dialog), make sure that Discoverer end users delete their old workbooks and worksheets when they are no longer required.
- If Discoverer's user dialogs are slow to update (e.g. the Share Workbook dialog in Discoverer Plus Relational), make sure that the Discoverer manager removes old database accounts and roles, when they are no longer required.
- Minimize the amount of Discoverer log information being recorded. For more information about how to change the amount of log information recorded, see Section D.2.5, "How to enable the Discoverer Services log file" and Section D.2.6, "How to enable the Discoverer Servlet log files".
- If the Discoverer server is under-performing, you might want to increase the amount of memory available or the amount of swap space on the Discoverer middle tier machine. For more information, refer to the operating system documentation for the Discoverer middle tier machine.

Notes

- Some Discoverer EUL Command Line for Java commands can take longer to run than their equivalent command or operation in Discoverer Administrator.
- When diagnosing Discoverer performance issues, be aware that performance is affected by the network type being used, and the distance between the OracleBI machine and the client browser machine. For example, using Discoverer over a LAN will typically be quicker than using Discoverer over the Internet.

12.4 How to take advantage of Discoverer's scalable architecture using the scalability features of OracleAS

The scalable architecture of OracleAS enables you to install the Discoverer Services tier on multiple machines (for more information about installing OracleBI Discoverer on multiple machines, see Chapter 7, "Installing OracleBI Discoverer in a multiple machine environment").

You can balance the load between the different machines using:

- OracleAS Web Cache
- standard commercial HTTP/IP Router load balancers

12.4.1 How to enhance Discoverer scalability by specifying OC4J memory usage parameters

For more information, see Chapter 6 "Optimizing J2EE Applications in OC4J" in the *Oracle Application Server Performance Guide.*

12.4.2 How to enhance Discoverer scalability by specifying the number of OC4J processes

For more information, see Chapter 6 "Optimizing J2EE Applications in OC4J" in the *Oracle Application Server Performance Guide.*

13

Starting OracleBI Discoverer using URL parameters

Note: This chapter only applies to Discoverer Plus Relational and Discoverer Viewer (with relational and OLAP worksheets). For more information about configuring Discoverer Plus OLAP, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".

This chapter explains how to use OracleBI Discoverer with URL parameters, and contains the following topics:

13.1 Why use Discoverer with URL parameters

Discoverer end users usually start OracleBI Discoverer by manually choosing a Discoverer connection (or connecting directly), opening a worksheet, and optionally specifying workbook parameter values. To speed up this process, you can create a URL with parameters to start OracleBI Discoverer with specific settings (e.g. login details, workbook ID, worksheet ID, parameter values). For example, you might want to provide a URL to Discoverer end users that automatically logs into Discoverer and opens a particular worksheet. For examples of Discoverer URL parameters, see Section 13.5, "Examples of using URL parameters".

Having created a URL that meets your requirements, you can:

- give the URL to end users to enter in their Web browser address box
- add the URL as a link on a Web site so that end users can start Discoverer by selecting a single hot link

13.2 What is the URL parameter syntax?

URL parameters must conform to the following syntax:

http://<*host.domain*>:<*port*>/<*Discoverer application name*>?
arg1=value1...&argN=valueN

where:

- *host.domain* is the server name and domain on which the Oracle HTTP Server is installed
- *port* is the port number on which the Oracle HTTP Server is installed

  Note: To start Discoverer Plus OLAP, you also need to specify a SID after the port number.
- *Discoverer application name* is one of the following (depending on whether you want to start Discoverer Plus or Discoverer Viewer):
  - discoverer/plus
  - discoverer/viewer
- ? - the question mark tells Discoverer that the remaining text contains URL parameters
- arg1=value1 is the first parameter and the value specified for it. Note that subsequent URL parameters are prefixed with an ampersand character (&)

Notes:

- URL parameters are not case-sensitive. For example, 'Locale=' is the same as 'locale='.
- URL parameter values are case-sensitive. For example, 'workbooksource=Database' is not the same as 'workbooksource=DataBase'.
- The order of the URL parameters is not important.
- When you specify login details, you can either specify a user name, database, and EUL, or you can specify the connection ID of a Discoverer connection. If you specify a user name, database, and EUL (e.g. http://<*host.domain*>:<*port*>/discoverer/viewer?us=video5&db=db1&eul=VIDEO5), the end user will be prompted to specify a database password before they can start Discoverer.

  If you specify login details using the ID of a Discoverer connection, you specify the EUL when you create the connection.
- If the following mandatory parameters are not specified on the URL, end users are prompted for them:
  - user name
  - Responsibility (for an Oracle Applications login)
  - Security Group (for an Oracle Applications login)
- Where names contain spaces, concatenate the words with a plus symbol (+). For example, if a workbook is called 'January Analysis 2003', the URL parameter is &wb=January+Analysis+2003
- To include other special characters in a URL, you must replace those characters with the equivalent ASCII (or in some cases UNICODE) codes. This process is

known as URL encoding. For example, to replace a vertical bar ('|') you replace it with ~7c. Any characters not in the following lists must be URL encoded:

- capital letters (i.e. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z)
- lower case letters (i.e. a b c d e f g h i j k l m n o p q r s t u v w x y z)
- numerals (i.e. 0 1 2 3 4 5 6 7 8 9)
- certain special characters (e.g. _ ! ~ ( ) * ')

Discoverer uses a proprietary encoding mechanism that is similar to HTTP URL encoding, except that Discoverer uses a tilde character (~) instead of a percent character (%). For more information about URL encoding, refer to any standard HTML guide.

- The maximum number of characters you can put in a URL depends on which Web browser you are using, as follows:
  - Internet Explorer 4 and later - 2048 characters
  - Netscape Navigator 4 and later - no known limit.

  Note: The Apache Web Server on which the Oracle HTTP Server is based has a limit of 8192 characters.

13.2.1 About URL parameters and format masks

When specifying format masks for dates and numbers, note the following:

- Discoverer uses the format mask specified when the workbook was created in Discoverer Desktop or Discoverer Plus.
- If numeric and date items in a worksheet have 'default' as the format mask value, Discoverer uses the default format mask in the specified browser environment, unless optional URL parameters are specified.
- If optional URL parameters for the format masks are not provided, Discoverer will use the format mask specified when the EUL was created (e.g. using Discoverer Administrator).

13.3 About specifying login information using URL parameters

You can specify login information in a URL in either of the following ways:

- by specifying login details individually using the following URL parameters:
  - us=<*database user name*> to specify a database user name
  - either database=<*database name*> (for Discoverer Plus) or db=<*database name*> (for Discoverer Viewer) to specify a database name
  - eul=<*EUL name*> to specify a Discoverer End User Layer

  Note: For security reasons, you cannot specify a database password using a URL parameter.

  For examples of specifying login details using URL parameters, see Section 13.5, "Examples of using URL parameters".

- by specifying the connection ID of a Discoverer connection

  If you use a public Discoverer connection, end users are not prompted for a database password.

If you use a private Discoverer connection, end users are always prompted at least once for a database password. You can also use the reuseConnection URL parameter to reuse login details in the same browser session so that end users do not have to enter a database password repeatedly for the same private Discoverer connection.

For information about how to specify login information using a connection ID, see Section 13.3.2, "How to specify login information using a Discoverer connection".

Note: If you do not specify login information, Discoverer prompts the end user for login details (e.g. user name).

13.3.1 About using URL parameters with private connections

When you specify connection information in URL parameters, note the following restrictions:

- If Discoverer end users are not allowed to create private connections in Discoverer Plus or Discoverer Viewer, you can only use URL parameters containing public connection information. In other words, you must include the connection ID in a URL parameter string for a public connection because end users can only start Discoverer using public connections.
- If a Discoverer URL parameter string does not work, it might be because you are trying to use a private connection when private connections are not allowed. In other words, the **Allow users to define and use their own private connections in Discoverer Plus and Discoverer Viewer** check box is cleared in the Discoverer Configuration page in Application Server Control.

  Discoverer end users should navigate to the required Discoverer worksheet and store the URL as a bookmark in their browser.

  For more information about the **Allow users to define and use their own private connections in Discoverer Plus and Discoverer Viewer** check box in Application Server Control, see Section 4.5, "About specifying whether Discoverer end users can create their own private connections".

  For more information about connection IDs, see the cn= URL parameter in Section 13.7, "List of URL parameters common to Discoverer Plus and Viewer".

13.3.2 How to specify login information using a Discoverer connection

You can use the login details stored in an existing Discoverer connection to start Discoverer.

Note: To use Discoverer connections, the OracleBI installation must be associated with an OracleAS Infrastructure (for more information, see Chapter 2, "About Oracle Business Intelligence installations and OracleAS Infrastructures").

To specify login information using a connection:

1. If you do not already have a Discoverer connection, create a Discoverer connection using login details that access the worksheet you want to open.

   For information about how to create a public connection, see Section 4.6, "How to create public connections". For information about how to create a private connection, see *Oracle Business Intelligence Discoverer Plus User's Guide*.

2. Find out the connection ID of the Discoverer connection (for more information, see Section 13.4.3, "How to find out the connection ID of a connection").

   For example, a connection ID might be cf_a156.

3. Create a URL using the cn= URL parameter, as follows:

   http://<*host.domain*>:<*port*>/discoverer/viewer?cn=<*connection ID value*>

   For example, if the connection ID is cf_a156, create a URL parameter as follows:

   http://<*host.domain*>:<*port*>/discoverer/viewer?cn=cf_a156

Discoverer end users can now use this URL to start Discoverer. If you use a public connection, end users are not prompted for a database password. If you use a private connection, end users are prompted for a database password.

13.4 About specifying workbooks and worksheets using URL parameters

When using URL parameters to specify workbooks and worksheets, you can use either unique IDs (recommended), or the workbook name or worksheet name.

Hint: To avoid encoding problems and problems caused by long workbook or worksheet names, Oracle recommends that you use unique IDs to specify workbooks and worksheets (for more information, see Section 13.4.1, "How to find out the unique workbook ID of a workbook" and Section 13.4.2, "How to find out the unique worksheet ID of a worksheet").

Note: Discoverer Plus OLAP only uses workbook names and worksheet names to identify workbooks and worksheet. For more information, see Section 6.7, "URL parameters for the Discoverer Plus OLAP Servlet".

The following table shows which URL parameters are used to specify Discoverer workbooks and worksheets.

Specifying a workbook using a URL parameter	Specifying a worksheet using a URL parameter
In Discoverer Plus, use opendbid= <*workbook ID*> (or use opendb= <*workbook name*> for backwards compatibility)	In Discoverer Plus, use sheetid= <*worksheet ID*> (or use sheet= <*worksheet name*> for backwards compatibility)
In Discoverer Viewer with a relational workbook, use wbk= <*workbook ID*> (or use wb= <*workbook name*> for backwards compatibility)	In Discoverer Viewer with a relational worksheet, use wsk= <*worksheet ID*> (or use ws= <*worksheet name*> for backwards compatibility)
In Discoverer Plus OLAP, use workbookname= <*workbook name*>	In Discoverer Plus OLAP, use sheet= <*worksheet name*>

Notes

- To open an OLAP worksheet in Discoverer Viewer, use worksheetname=<*name of folder, name of workbook, name of worksheet*> (for more information, see Section 6.8, "URL parameters for an OLAP worksheet in Discoverer Viewer").
- To use the opendbid and wbk URL parameters, you need to know the unique ID of the workbook you want to specify (for more information, see Section 13.4.1, "How to find out the unique workbook ID of a workbook").
- To use the sheetid and wsk URL parameters, you need to know the unique ID of the worksheet you want to specify (for more information, see Section 13.4.2, "How to find out the unique worksheet ID of a worksheet").

13.4.1 How to find out the unique workbook ID of a workbook

You find out the unique workbook ID of a workbook so that you can specify a workbook on a Discoverer URL using its unique workbook ID.

Note: You identify a workbook using its workbook ID in preference to using its workbook name to avoid encoding problems and problems caused by large workbook names (for more information, see Section 13.4, "About specifying workbooks and worksheets using URL parameters").

To find out the unique ID of a workbook in Discoverer Plus:

1. Start a Web browser.
2. Run Discoverer Plus and display the Workbook Wizard.
3. Click Browse to display the Open Workbook from Database dialog.
4. Right-click on the workbook and select the Properties option to display the Workbook Properties page.
5. To find out the unique ID of a workbook, note down the value in the **Identifier** field.

Notes

- Alternatively, if you already have a workbook open in Discoverer Plus, choose File | Workbook Properties to display the Workbook Properties dialog and note down the value in the **Identifier** field.
- You can use a workbook ID value to specify a workbook as follows:
  - in a Discoverer Plus URL using opendbid=*<workbook ID>*
  - in a Discoverer Viewer URL using wbk=*<workbook ID>*

  For examples, see Section 13.5, "Examples of using URL parameters".

13.4.2 How to find out the unique worksheet ID of a worksheet

You find out the unique worksheet ID of a worksheet so that you can specify a worksheet on a Discoverer URL using its unique worksheet ID.

Note: You identify a worksheet using its worksheet ID in preference to using its worksheet name to avoid encoding problems and problems caused by large worksheet names (for more information, see Section 13.4, "About specifying workbooks and worksheets using URL parameters").

To find out the unique ID of a worksheet in Discoverer Plus:

1. Start a Web browser.
2. Run Discoverer Plus and open the worksheet.
3. Choose Edit | Worksheet Properties to display the Worksheet Properties dialog.
4. Display the General tab and look at the value in the **Identifier** field.

Notes

- You can use a worksheet ID value to specify a worksheet as follows:
  - in a Discoverer Plus URL using sheetid=*<worksheet ID>*
  - in a Discoverer Viewer URL using wsk=*<worksheet ID>*

  For examples, see Section 13.5, "Examples of using URL parameters".

13.4.3 How to find out the connection ID of a connection

You find out the connection ID (sometimes referred to as a connection key) of a connection so that you can start Discoverer without specifying connection details. For example, you might want to start Discoverer without prompting the end user for connections details (for more information, see Section 13.5.4, "Example 4: Starting Discoverer without prompting for connection details").

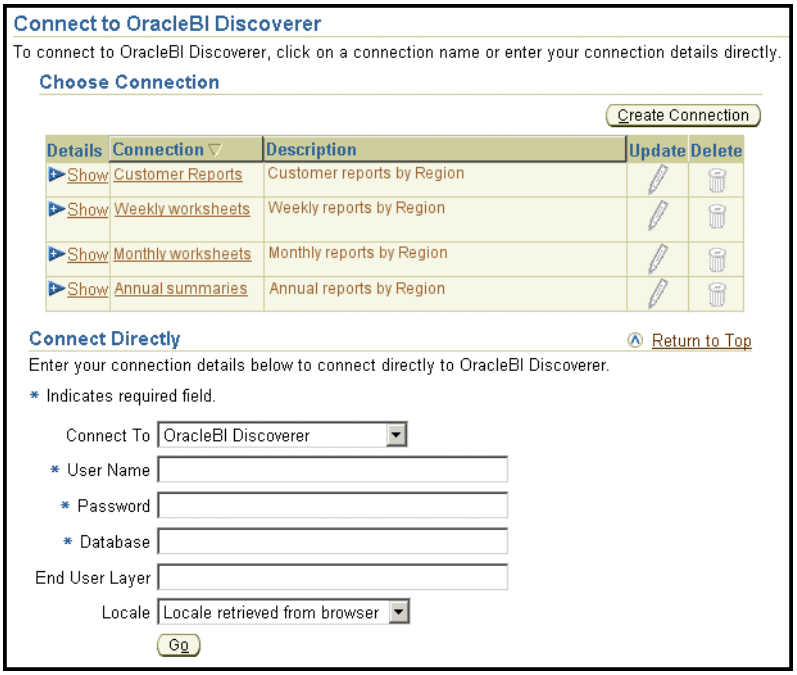
Note: If you use a public connection, end users are not prompted for a database password. If you use a private connection, end users are prompted for a database password. You can also use the reuseConnection URL parameter to reuse login details in the same browser session so that end users do not have to enter a database password repeatedly for the same connection.

You can find out the connection ID of a connection in either Discoverer Viewer or Discoverer Plus.

To find out the connection ID of a connection:

1. Start a Web browser.
2. Start Discoverer to display the connections page containing the connection that you want to use, as follows:
   - if you use Discoverer Viewer, display the Connect to Discoverer Viewer page
   - if you use Discoverer Plus, display the Connect to Discoverer Plus page

   The example below shows the Connect to Discoverer Plus page.



3. In the Details column, select the **Show** link next to the connection to expand the connection details.

   Hint: The Show links are not available in Netscape Navigator. Use Microsoft Internet Explorer to display the connection page.

4. Note down the value of **Connection Key**.

   You can now use the value of Connection Key with the cn= URL parameter.

Notes

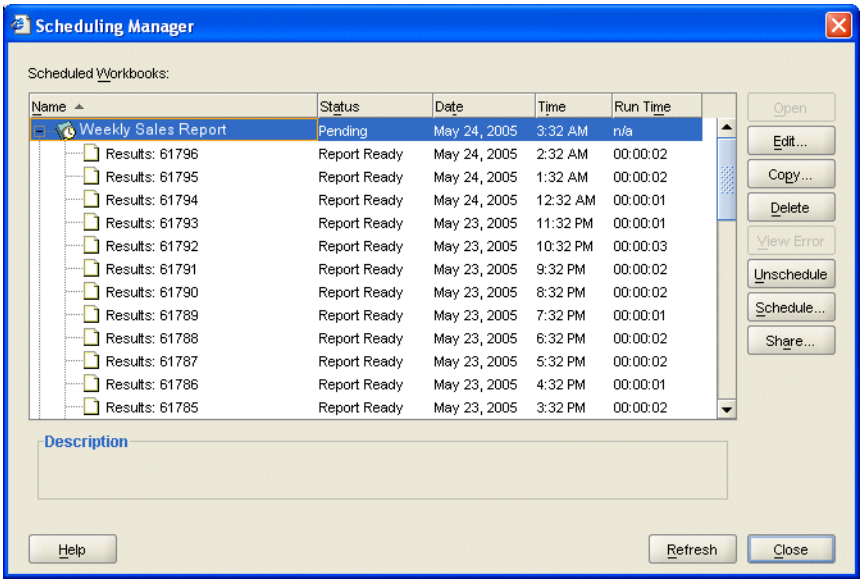
- For an example, see Section 13.5.7, "Example 7: Starting Discoverer Plus and opening a scheduled workbook".

13.4.4 How to find out the unique run ID of a set of scheduled workbook results

You find out the unique run ID of a set of scheduled workbook results when you want to automatically open a set of workbook results.

To find out the unique ID of a set of scheduled workbook results:

1. Start Discoverer Plus Relational (for more information about how to start Discoverer Plus Relational, see *Oracle Business Intelligence Discoverer Plus User's Guide*).
2. Choose Tools | Manage Schedules to display the Scheduling Manager dialog.
3. In the **Name** column, expand the scheduled workbook containing the results set you want to use.



4. Note down the number that is displayed to the right of the 'Results:' label in the **Name** column.

   For example, the number of a set of results might be 61796.

   You can now use this value as the *<run ID>* when you specify a set of results using the following syntax:

   &wbk=*<unique workbook ID>*&*<run ID>*&wsk=*<unique worksheet ID>*

   Note: For a worked example of using the unique run ID of a scheduled workbook results set, see Section 13.5.8, "Example 8: Starting Discoverer Viewer and opening a scheduled workbook results set".

13.5 Examples of using URL parameters

This section contains the following examples of using URL parameters with Discoverer:

- Section 13.5.1, "Example 1: Starting Discoverer Viewer"

- Section 13.5.2, "Example 2: Starting Discoverer Viewer using a worksheet parameter"
- Section 13.5.3, "Example 3: Starting Discoverer Plus"
- Section 13.5.4, "Example 4: Starting Discoverer without prompting for connection details"
- Section 13.5.5, "Example 5: Starting Discoverer Viewer and prompt for a password"
- Section 13.5.6, "Example 6: Starting Discoverer Plus OLAP"
- Section 13.5.7, "Example 7: Starting Discoverer Plus and opening a scheduled workbook"
- Section 13.5.8, "Example 8: Starting Discoverer Viewer and opening a scheduled workbook results set"

Note: Examples 1 to 4 use a public connection to specify login details. The public connection in these examples has the ID value cf_a156. Example 5 specifies login details using us=, db=, and eul=. Example 6 uses a public connection to an OLAP data source.

For information about how to create a public connection, see Section 4.6, "How to create public connections".

13.5.1 Example 1: Starting Discoverer Viewer

To start Discoverer Viewer, connect automatically as jchan, and open a worksheet called January Analysis in a workbook called Monthly Analysis, you might use the following URL:

http://<*host.domain*>:<*port*>/discoverer/viewer?cn=cf_a156&wbk=MONTHLY_ANALYSIS&wsk=179

Notes

- http://<*host.domain*>:<*port*>/discoverer/viewer? is the Discoverer Viewer URL.
- cn=<*value*> specifies the connection ID of a Discoverer connection.

  For more information about finding out connection IDs, see Section 13.4.3, "How to find out the connection ID of a connection".
- wbk=<*value*> specifies the workbook ID of a Discoverer workbook.
- wsk=<*value*> specifies the worksheet ID of a Discoverer worksheet.
- In this example, MONTHLY_ANALYSIS is the workbook ID of the Monthly Analysis workbook, and 179 is the worksheet ID of the January Analysis worksheet. For more information about finding out workbook IDs and worksheet IDs, see Section 13.4.1, "How to find out the unique workbook ID of a workbook" and Section 13.4.2, "How to find out the unique worksheet ID of a worksheet".

13.5.2 Example 2: Starting Discoverer Viewer using a worksheet parameter

To start Discoverer Viewer, connect automatically as jchan to the Sales EUL, open a worksheet called January Analysis in a workbook called Monthly Analysis, and enter the worksheet parameter value East, you might use the following URL:

http://<*host.domain*>:<*port*>/discoverer/viewer?cn=cf_a156&wbk=MONTHLY_ANALYSIS&wsk=179&qp_regionparam=East

Notes

- http://<*host.domain*>:<*port*>/discoverer/viewer? is the Discoverer Viewer URL.
- cn=<*value*> specifies the connection ID of a Discoverer connection.

  For more information about finding out connection IDs, see Section 13.4.3, "How to find out the connection ID of a connection".
- wbk=<*value*> specifies the workbook ID of a Discoverer workbook.
- wsk=<*value*> specifies the worksheet ID of a Discoverer worksheet.
- qp_regionparam=<*value*> specifies a value for a parameter called regionparam.
- In this example, MONTHLY_ANALYSIS is the workbook ID of the Monthly Analysis workbook, and 179 is the worksheet ID of the January Analysis worksheet. For more information about finding out workbook IDs and worksheet IDs, see Section 13.4.1, "How to find out the unique workbook ID of a workbook" and Section 13.4.2, "How to find out the unique worksheet ID of a worksheet".

13.5.3 Example 3: Starting Discoverer Plus

To start Discoverer Plus, connect automatically as jchan to the Sales EUL, open a worksheet called January Analysis in a workbook called Monthly Analysis, you might use the following URL:

http://<*host.domain*>:<*port*>/discoverer/plus?cn=cf_a156&opendbid=MONTHLY_ANALYSIS&sheetid=179

Notes

- http://<*host.domain*>:<*port*>/discoverer/plus? is the Discoverer Plus URL.
- cn=<*value*> specifies the connection ID of a Discoverer connection.

  For more information about finding out connection IDs, see Section 13.4.3, "How to find out the connection ID of a connection".
- opendbid=<*value*> specifies the workbook ID of a Discoverer workbook.
- sheetid=<*value*> specifies the worksheet ID of a Discoverer worksheet.
- In this example, MONTHLY_ANALYSIS is the workbook ID of the Monthly Analysis workbook, and 179 is the worksheet ID of the January Analysis worksheet. For more information about finding out workbook IDs and worksheet IDs, see Section 13.4.1, "How to find out the unique workbook ID of a workbook" and Section 13.4.2, "How to find out the unique worksheet ID of a worksheet".

13.5.4 Example 4: Starting Discoverer without prompting for connection details

To start Discoverer Viewer using a connection called Sales Data that has the connection ID cf_a157, you might use the following URL:

http://<*host.domain*>:<*port*>/discoverer/viewer?cn=cf_a157

Notes

- http://<*host.domain*>:<*port*>/discoverer/viewer? is the Discoverer Viewer URL.
- cn=<*value*> specifies the connection ID of a Discoverer connection.

  For more information about finding out connection IDs, see Section 13.4.3, "How to find out the connection ID of a connection".

- If the connection specified by cn=<*value*> is a public connection, the end user is not prompted for a password. If the connection specified by cn=<*value*> is a private connection, the end user is prompted for a password. You create public connections using Oracle Enterprise Manager (for more information, see Section 4.6, "How to create public connections").
- If private connections are not allowed, you can only use the connection ID of a public connection (for more information, see Section 4.5, "About specifying whether Discoverer end users can create their own private connections".)

13.5.5 Example 5: Starting Discoverer Viewer and prompt for a password

In this example, you want end users to be prompted to specify a password before they can access Discoverer. You therefore specify a user name, database, and EUL on the URL.

To start Discoverer Viewer, connect automatically as video5, and open a worksheet called January Analysis in a workbook called Monthly Analysis, you might use the following URL:

http://<*host.domain*>:<*port*>/discoverer/viewer?us=video5&db=db1&eul=VIDEO5&wbk=MONTHLY_ANALYSIS&wsk=179

Notes

- http://<*host.domain*>:<*port*>/discoverer/viewer? is the Discoverer Viewer URL.
- us=<*value*> specifies the database user name.
- db=<*value*> specifies the database.
- eul=<*value*> specifies the End User Layer (EUL).
- wbk=<*value*> specifies the workbook ID of a Discoverer workbook.
- wsk=<*value*> specifies the worksheet ID of a Discoverer worksheet.
- In this example, MONTHLY_ANALYSIS is the workbook ID of the Monthly Analysis workbook, and 179 is the worksheet ID of the January Analysis worksheet. For more information about finding out workbook IDs and worksheet IDs, see Section 13.4.1, "How to find out the unique workbook ID of a workbook" and Section 13.4.2, "How to find out the unique worksheet ID of a worksheet".

13.5.6 Example 6: Starting Discoverer Plus OLAP

To start Discoverer Plus OLAP and display the login page, you might use the following URL:

http://<*host.domain*>:<*port*>/discoverer/plus?db=host1:1521:ora925

Notes

- http://<*host.domain*>:<*port*>/discoverer/plus? is the Discoverer Plus and Plus OLAP URL.
- db=host1:1521:ora925 specifies the host name (i.e. host1), port number (i.e. 1521), and SID (i.e. ora925).

  For more information about URL parameters for Discoverer Plus OLAP, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".

13.5.7 Example 7: Starting Discoverer Plus and opening a scheduled workbook

To start Discoverer Plus, connect automatically as jchan to the Sales EUL, and open a scheduled workbook, you might use the following URL:

http://<*host.domain*>:<*port*>/discoverer/plus?cn=cf_a156&opendbid=SALES_ANALYSIS2&sheetid=42&workbooksource=Scheduled

Notes

- http://<*host.domain*>:<*port*>/discoverer/plus? is the Discoverer Plus URL.
- cn=<*value*> specifies the connection ID of a Discoverer connection.

  For more information about finding out connection IDs, see Section 13.4.3, "How to find out the connection ID of a connection".
- opendbid=<*value*> specifies the workbook ID of a Discoverer scheduled workbook.
- sheetid=<*value*> specifies the worksheet ID of a Discoverer scheduled worksheet.
- workbooksource=Scheduled identifies the workbook as scheduled.

13.5.8 Example 8: Starting Discoverer Viewer and opening a scheduled workbook results set

To start Discoverer Viewer, connect automatically as jchan to the Sales EUL, and open a scheduled workbook results set, you might use the following URL:

http://<*host.domain*>:<*port*>/discoverer/viewer?cn=cf_a156&wbk=MONTHLY_ANALYSIS&3&wsk=179

Notes

- http://<*host.domain*>:<*port*>/discoverer/viewer? is the Discoverer Viewer URL.
- cn=<*value*> specifies the connection ID of a Discoverer connection.

  For more information about finding out connection IDs, see Section 13.4.3, "How to find out the connection ID of a connection".
- wbk=<*value*> specifies the workbook ID of a Discoverer scheduled workbook.
- <*number*> specifies the unique run ID (in this example the number 3) of a Discoverer results set.

  Note: For more information about how to find out the unique run ID of a Discoverer results set, see Section 13.4.4, "How to find out the unique run ID of a set of scheduled workbook results".
- wsk=<*value*> specifies the worksheet ID.

13.5.9 Example 9: Opening an OLAP worksheet in Discoverer Viewer

To start Discoverer Viewer and open an OLAP worksheet called Export 1 that is stored in a workbook called Workbook A in the Users\JChan folder in the Discoverer Catalog, you might use the following URL:

http://<*host.domain*>:<*port*>/discoverer/viewer?cn=cf_a102&worksheetname=Users/JChan/Workbook+A/Export+1

Notes

- http://<*host.domain*>:<*port*>/discoverer/viewer? is the Discoverer Viewer URL.
- &worksheetname specifies the folder location and name of the OLAP worksheet.

  For more information about URL parameters for Discoverer Plus OLAP, see Section 6.8, "URL parameters for an OLAP worksheet in Discoverer Viewer".

13.6 About syntax and notation used in URL parameter tables

This document uses the following syntax and notation rules in the URL parameter tables:

- parameter names are in normal type (e.g. framedisplaystyle=)
- variable parameter values are in italic type (e.g. cn=*connection ID*)
- literal values are in normal type (e.g. framedisplaystyle=<separate or embedded>)

13.7 List of URL parameters common to Discoverer Plus and Viewer

This table defines generic Discoverer URL parameters that you can use with both Discoverer Plus and Discoverer Viewer.

Parameter and Values	Description	Example
cn=<*connection ID*>	Specifies the connection containing the login details with which to start Discoverer (for more information about how to find out the connection ID of a connection, see Section 13.4.3, "How to find out the connection ID of a connection"). For an example, see Section 13.5.4, "Example 4: Starting Discoverer without prompting for connection details". For more information about using Discoverer connections in URLs, see Section 13.3, "About specifying login information using URL parameters". See also Notes below.	cn=cf_m2
cs=[APPS_SECURE]<*dbc file name*>	Specifies whether to connect in secure mode. <dbc file name> refers to the Applications DBC file that contains Applications connection information.	cs=[APPS_SECURE]genledger_ payables
eul=<*EUL name*>	Specifies the name of the EUL to which to connect. You only need to specify this parameter if you want to override the default EUL. **Note**: EUL names are case-sensitive.	eul=myEUL
nls_date_format=<*date format*>	Specifies the default date format for the session.	nls_date_format='MM/DD/YY'
nls_date_language=<*date language*>	Specifies the language for day and month names displayed in Discoverer.	nls_date_language=Spanish

Parameter and Values	Description	Example
nls_lang=<*language*>	Specifies the language and territory that Discoverer uses. Use Oracle naming conventions to specify language and territory.	nls_lang=spanish_spain
nls_numeric_characters=<*separator characters*>	Specifies the default characters to use as the decimal and group separator. You must specify the decimal separator first, followed by the group separator.	nls_numeric_characters='.,'
nls_sort=<*sort name* or binary>	Specifies the session collating sequence for ORDER BY queries and string comparisons, as follows: ■ use <*sort name*> to specify an alphabetical sort sequence ■ use 'binary' to specify a binary sort	nls_sort=binary
nls_sort=<*sort type*>	Specifies a character sort sequence. For more information about the nls_sort command, see *Oracle9i Database Globalization Support Guide.*	nls_sort=XSpanish
reuseConnection=<true or false>	Specifies whether end users must always enter a password when using URL links containing the same login details in a browser session. **Note**: Use this preference with private Discoverer connections. End users are not prompted for a database password when using public Discoverer connections. Discoverer checks whether the end user has already specified a database password in a browser session, and if so whether to prompt the user again for a database password. For example, a Web page might contain URL links to five Discoverer worksheets. If an end user selects the first worksheet and enters a database password, you might want them not to have to enter the password again if they return to the Web page and select from the other four worksheet links. Use 'false' if you always want end users to enter a password. Use 'true' if you want end users to only enter a password the first time they use a private connection in a browser session.	reuseConnection=true

Parameter and Values	Description	Example
sg=<*security group*>	Specifies the Oracle Applications Security Group you want to connect with. **Note**: If you do not specify a user name, responsibility, or security group, the Discoverer end user is prompted to enter the missing login information.	sg=securityGroup
us=<*database user name*>	Specifies a database user name with which to connect to Discoverer. **Hint**: You can also use this parameter to specify a database, user name as a single parameter. **Note**: If you do not specify a user name, the Discoverer end user is prompted for a user name.	us=video5

Notes

- When using the cn= URL parameter, note the following:
  - If Discoverer end users are not allowed to create private connections, the specified connection must be a public connection. For more information, see Section 4.5, "About specifying whether Discoverer end users can create their own private connections".

13.8 List of URL parameters specific to Discoverer Plus

This table describes Discoverer Plus-specific URL parameters that can be used in addition to the generic URL parameters in Section 13.7, "List of URL parameters common to Discoverer Plus and Viewer".

Hint: Do not use Discoverer Plus URL parameters on the same URL as Discoverer Viewer URL parameters.

Note: For information about Discoverer Plus OLAP URL parameters, see Section 6.7, "URL parameters for the Discoverer Plus OLAP Servlet".

Parameter and Values	Description	Example
_plus_popup=<true or false>	Specifies whether to launch Discoverer Plus in a new browser window or in the Discoverer Connections page, as follows: ▪ true (default) launches Discoverer Plus in a new browser window. ▪ false launches Discoverer Plus in the current browser window. This URL parameter can be used in conjunction with framedisplaystyle (for more information, see framedisplaystyle=).	_plus_popup=true

Parameter and Values	Description	Example
database=<*database name* or *alias*>	Specifies which database to connect to when Discoverer starts. **Hint**: You can also use the connect URL parameter to specify a database, user name as a single parameter.	database=mydb
framedisplaystyle=<separate or embedded>	Specifies how to launch the Discoverer main window. ▪ Use 'separate' to launch Discoverer's main window as a separate frame from the browser (i.e. from the Discoverer Connections page). The browser window contains a Discoverer image and must remain open while Discoverer is being used. ▪ Use 'embedded' to launch Discoverer's main window within the current browser window. When using _pop_up in conjunction with framedisplaystyle=, the possible combinations are: ▪ _plus_popup=true and framedisplaystyle=embedded launches Discoverer Plus in a new pop-up browser window that contains the Plus applet embedded in it. ▪ _plus_popup=true and framedisplaystyle=separate opens a new pop-up browser window and launches Discoverer Plus in a new applet window. This combination launches three windows: the original browser window (i.e. Discoverer Connections page), the new browser window containing the Discoverer image, and the JFrame window containing the Discoverer Plus applet. ▪ _plus_popup=false and framedisplaystyle=embedded launches Discoverer Plus in the current browser window. ▪ _plus_popup=false and framedisplaystyle=separate launches Plus in a JFrame window. The current browser window contains the Discoverer image.	framedisplaystyle=separate

Parameter and Values	Description	Example
helpset=*<path>/<locale>/<HS file>*	Specifies a help set location that is different to the default Discoverer Plus help set. **Note**: The help must be in sub-directories named by the standard two character locale. **Hint**: As an alternative to using the HelpSet URL parameter to customize the help, edit the plusug.hs file and its related files.	helpset=Plus_files/My_custom_help (i.e. where the Plus_files/My_custom_help directory contains the language folders, e.g. /en, /es, /fr).
lookandfeelname=<system or oracle or browser or plastic or *custom*>	Specifies a look and feel. For example, a user might want to run Discoverer Plus using the Windows look and feel. This setting overrides the LAF specified in Oracle Application Server Control (for more information, see Section 9.1.3, "How to change the Discoverer Plus LAF for all end users"). If you specify the lookandfeelname value as 'custom', Discoverer uses the LAF class and JAR specified in the configuration.xml file. For more information about specifying a custom LAF on the Discoverer middle tier, see Section 9.1.4, "How to define a custom LAF for Discoverer Plus Relational and Discoverer Plus OLAP".	lookandfeelname=plastic
opendb=<*workbook name*>	Specifies the name of a workbook to open (Discoverer assumes that the workbook is stored in the database, not as a scheduled workbook). If you use the opendb parameter more than once in the URL, Discoverer uses the last one. **Hint**: This URL parameter is included for backward compatibility. Oracle recommends that you use opendbid to specify workbooks. **Note**: 'opendb=Video+Sales+Workbook' is the equivalent of 'workbookname=Video+Sales+Workbook&workbooksource=Database'. See also workbookname and workbooksource.	opendb=Video+Sales+Workbook **Note**: You also need to specify a workbook source (i.e. workbooksource=Database or Scheduled). E.g. workbooksource=Scheduled&opendb=Video+Sales+Workbook.

Parameter and Values	Description	Example
opendbid=<*unique ID*>	Specifies the unique ID of the workbook you want to open. Discoverer assumes that the workbook is stored in the database, not as a scheduled workbook. For more information about how to find the unique ID of a workbook, see Section 13.4.1, "How to find out the unique workbook ID of a workbook". For examples, see Section 13.5, "Examples of using URL parameters".	opendbid=JanuarySales **Note**: You also need to specify a workbook source (i.e. workbooksource=Database or Scheduled). E.g. workbooksource=Scheduled&opendbid =JanuarySales.
param_<*parameter_name*>=<*parameter_value*>	Specifies values for parameters. **Note**: If the workbook does not contain a parameter of that name, Discoverer ignores the parameter.	param_regionparam=East
responsibility=<*responsibility name*>	Specifies the Oracle Applications responsibility for Oracle Applications end users. **Note**: If you do not specify a user name, responsibility, or security group, the Discoverer end user is prompted to enter the missing login information.	responsibility=Manager (i.e. Discoverer bypasses the Responsibility dialog and assigns the end user an Oracle Applications responsibility of Manager)
sheet=<*worksheetname*>	Specifies the name of the worksheet to open by default. **Note**: If you use the sheet parameter more than once in the URL, Discoverer opens the last one. **Hint**: This URL parameter is included for backward compatibility. Oracle recommends that you use sheetid to specify worksheets.	sheet=Sales+Detail+Sheet
sheetid=<*unique ID*>	Specifies the unique identifier of the worksheet to open. For more information about how to find the unique ID of a worksheet, see Section 13.4.2, "How to find out the unique worksheet ID of a worksheet". **Note**: You must also specify a workbook using opendbid. For examples, see Section 13.5, "Examples of using URL parameters".	sheetid=7
username=<*database user name*>	Specifies a database user name with which to connect to Discoverer. **Hint**: You can also use the connect parameter to specify a database, user name as a single parameter. **Note**: If you do not specify a user name, responsibility, or security group, the Discoverer end user is prompted to enter the missing login information.	username=video_user

Parameter and Values	Description	Example
windowheight=<*number of pixels*>	Specifies the height in pixels of the Discoverer application frame. If you do not use this parameter, Discoverer uses a default value.	windowheight=600
windowwidth=<*number of pixels*>	Specifies the width in pixels of the Discoverer application frame. If you do not use this parameter, Discoverer uses a default value.	windowwidth=800
workbookname=<*workbook name*>	Specifies the name of the Discoverer workbook to open. **Hint**: Use this URL parameter in conjunction with workbooksource. E.g. 'workbookname=Video+Sales+Workbook&workbooksource=Database' is the equivalent of 'opendb=Video+Sales+Workbook'. **Hint**: This URL parameter is included for backward compatibility. Oracle recommends that you use opendbid to specify workbooks.	workbookname=Video+Sales+Workbook
workbooksource=<Database or Scheduled>	Specifies the location of the workbook to open: ■ Database specifies that the workbook is saved in the database. ■ Scheduled specifies that the workbook is a scheduled workbook that is updated periodically. **Hint**: Use this URL parameter in conjunction with opendbid or workbookname. For a worked example, see Section 13.5.7, "Example 7: Starting Discoverer Plus and opening a scheduled workbook".	workbooksource=Database

13.9 List of URL parameters specific to Discoverer Viewer

This table describes Discoverer Viewer-specific URL parameters that can be used in addition to the generic URL parameters in Section 13.7, "List of URL parameters common to Discoverer Plus and Viewer".

Note: For information about the URL parameters to use when opening an OLAP worksheet in Discoverer Viewer, see Section 6.8, "URL parameters for an OLAP worksheet in Discoverer Viewer".

Hint: Do not use Discoverer Viewer URL parameters on the same URL as Discoverer Plus URL parameters.

Parameter and Values	Description	Example
anlsdf=<*date format*>	Specifies the date format for the session for Oracle Applications end users (synonym of nls_date_format).	anlsdf='MM/DD/YY'

Parameter and Values	Description	Example
anlsdl=<*date language*>	Specifies the language to use for the spelling of day and month names and date abbreviations (AM, PM, AD, BC) for Oracle Applications end users (synonym of nls_date_language).	anlsdl=fr
anlsl=<*language*>	Specifies the session language for Oracle Applications end users (synonym of nls_lang).	anlsl=en-gb
anlsnc=<*separator characters*>	Specifies the default characters to use as the group separator and decimal for Oracle Applications end users (synonym of nls_numeric_characters). You must specify the decimal separator first, followed by the group separator.	anlsnc=',.'
anlss=<*sortname* or binary>	Specifies the session collating sequence for ORDER BY queries and string comparisons for Oracle Applications end users (synonym of nls_sort). Values are: ■ the name of an alphabetical sort sequence ■ binary to specify a binary sort	anlss=binary
db=<*database name*>	Specifies the database to connect to when Discoverer starts.	db=video
lm=<applications or discoverer>	Specifies the login method, as follows: ■ applications connects as an Oracle Applications user ■ discoverer connects as a Discoverer user	lm=applications
pi_<*page item name*>=<[*page item value*>	Specifies the name of a page item and the value to select.	pi_Region=West
qp_<*parameter name*>=<*parameter value*>	Specifies values for parameters.	qp_City=Denver
rs=<*responsibility*>	Specifies the Oracle Applications Responsibility you want to connect with. **Note**: If you do not specify a user name, responsibility, or security group, the Discoverer end user is prompted to enter the missing login information.	rs=Manager
wb=<*workbook name*>	Specifies the name of the Discoverer workbook to open. **Hint**: This URL parameter is included for backward compatibility. Oracle recommends that you use wbk to specify workbooks. **Note:** Use + to indicate spaces in workbook names.	wb=My+Workbook

Parameter and Values	Description	Example
wbk=<*unique ID*>	Specifies the unique ID of the workbook to open. Discoverer assumes that the workbook is stored in the database, not as a scheduled workbook. For more information about how to find the unique ID of a workbook, see Section 13.4.1, "How to find out the unique workbook ID of a workbook". **Note**: If you want to specify a scheduled workbook results set, you must also specify the unique run ID of the scheduled workbook results set using the syntax &wbk=<*unique workbook ID*>&<*unique run ID*>&wsk=<*unique worksheet ID*> (for more information, see Section 13.4.4, "How to find out the unique run ID of a set of scheduled workbook results"). For a worked example, see Section 13.5.8, "Example 8: Starting Discoverer Viewer and opening a scheduled workbook results set".	wbk=JanuarySales
ws=<worksheet name>	Specifies the name of the relational worksheet to open by default. **Note**: To specify an OLAP worksheet, use the worksheetname URL parameter (for more information, see Section 6.8, "URL parameters for an OLAP worksheet in Discoverer Viewer"). **Note**: This URL parameter is included for backward compatibility. Oracle recommends that you use wsk to specify worksheets.	ws=My+Worksheet
wsk=<*unique ID*>	Specifies the unique identifier of the relational worksheet to open. **Note**: To specify an OLAP worksheet, use the worksheetname URL parameter (for more information, see Section 6.8, "URL parameters for an OLAP worksheet in Discoverer Viewer"). For more information about how to find the unique ID of a worksheet, see Section 13.4.2, "How to find out the unique worksheet ID of a worksheet". **Note**: You must also specify a workbook using wbk. For examples, see Section 13.5, "Examples of using URL parameters".	wsk=7

14

Maintaining security with OracleBI Discoverer

Note: This chapter only applies to Discoverer Plus and Discoverer Viewer. For more information about configuring Discoverer Plus OLAP, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".

This chapter describes the different security mechanisms that Discoverer uses to protect sensitive resources, and contains the following topics:

14.1 About Discoverer and security

Discoverer uses (and must therefore protect) different sensitive resources, including:

- data (e.g. users must only see information they are allowed to see)
- metadata (e.g. users must not be able to edit workbooks to which they do not have access)
- Discoverer connections (e.g. database login details must not be transmitted or persisted without being securely encrypted)
- system resources (e.g. CPU, memory)
- network resources (or more precisely, the protection of data as it is transmitted across a network)

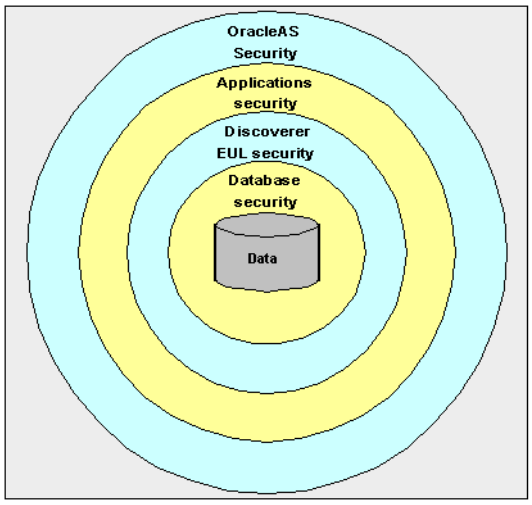
The table below shows the sensitive resources used and protected by the different Discoverer components:

Sensitive resources	Used and protected by Discoverer Plus	Used and protected by Discoverer Viewer	Used and protected by Discoverer Portlet Provider	Used and protected by Discoverer Administrator	Used and protected by Discoverer pages in Application Server Control
data	Yes	Yes	Yes	Yes	No
metadata	Yes	Yes	Yes	Yes	Yes
Discoverer connections	Yes	Yes	Yes	No	Yes
system resources	Yes	Yes	Yes	Yes	Yes
network resources	Yes	Yes	Yes	Yes	Yes

Discoverer uses a number of security mechanisms to prevent unauthorized access to the above resources. These security mechanisms are provided by the following security models:

- the database security model
- the Discoverer EUL security model
- the Oracle Applications security model
- the OracleAS Security model

The diagram below shows the multiple security mechanisms employed by Discoverer, all of which ultimately protect data and system resources from unauthorized access:



The security mechanisms that Discoverer employs will depend on the category of Discoverer user (as defined by the Discoverer product they are using), as follows:

- Discoverer Plus, Discoverer Viewer, and Discoverer Portlet Provider users (i.e. Discoverer end users)
- OracleBI Discoverer Administrator users (i.e. Discoverer managers)
- users administering Discoverer using Application Server Control (i.e. Discoverer middle tier administrators)

The table below shows which security models are used by which Discoverer components:

Security Model	Used by Discoverer Plus	Used by Discoverer Viewer	Used by Discoverer Portlet Provider	Used by Discoverer Administrator	Used by Discoverer pages in Application Server Control
Database	Yes	Yes	Yes	Yes	No
Discoverer EUL	Yes	Yes	Yes	Yes	No
Applications	Yes	Yes	Yes	Yes	No
OracleAS	Yes	Yes	Yes	No	Yes

14.2 About Discoverer and the database security model

At the most basic level, data in the database is protected from unauthorized access by the database's own security model. In the case of an Oracle database, this security model comprises:

- database users and roles
- database privileges

The database privileges granted directly to database users (or granted indirectly via database roles) determine the data that users can access. Typically, you will set up database security using a database administration tool or SQL*Plus.

Discoverer uses the database's own security model to make sure that users never see information to which they do not have database access.

For more information about the database security model and how Discoverer uses it, see *Oracle Business Intelligence Discoverer Administration Guide*.

Note: Discoverer is certified with the Oracle Advanced Security Option (ASO) encryption technology provided by the Oracle database (i.e. in Oracle 8.1.7 databases and later). The certification has four encryption types (RC4, DES, Triple-DES, and AES). Oracle ASO encryption incurs little performance overhead, although performance will vary depending on a number of factors (e.g. the operating system, the encryption algorithm). For more information about Oracle ASO encryption, refer to the Oracle database documentation.

14.3 About Discoverer and the Discoverer EUL security model

Discoverer managers use Discoverer Administrator to grant Discoverer access permissions and task privileges directly to database users (or indirectly via database roles), as follows:

- to control who can see and use which business areas, Discoverer managers grant Discoverer access permissions
- to control the tasks each user is allowed to perform, Discoverer managers grant Discoverer task privileges

Regardless of the access permissions and task privileges granted in Discoverer Administrator, a Discoverer end user only sees folders if that user has been granted the following database privileges (either directly or through a database role):

- SELECT privilege on all the underlying tables used in the folder
- EXECUTE privilege on any PL/SQL functions used in the folder

Even if they share workbooks with each other, Discoverer users will never see information to which they do not have database access.

Discoverer Administrator also enables Discoverer managers to protect system resources by:

- setting scheduled workbook limits to control the system resources available to end users
- preventing end user queries from running for longer than a specified maximum duration
- preventing end user queries from returning more than a specified number of rows

Discoverer managers can extend Discoverer functionality by registering their own PL/SQL functions. However, they can only register PL/SQL functions to which they have been granted the EXECUTE database privilege.

For more information about the Discoverer EUL security model, see *Oracle Business Intelligence Discoverer Administration Guide*.

Notes

- To enforce read-only access to Discoverer workbooks, run Discoverer Plus in read-only mode for specified Discoverer end users by removing the Create/Edit Query privilege in OracleBI Discoverer Administrator (for more information, see *Oracle Business Intelligence Discoverer Administration Guide*).
- Some of the EUL maintenance scripts supplied with Discoverer grant database privileges to the Discoverer manager and the PUBLIC user (for more information, see Appendix C, "OracleBI Discoverer administrative account information").

14.4 About Discoverer and the Oracle Applications security model

A common use of Discoverer is to provide ad-hoc query access to Oracle Applications databases. To provide such access, Discoverer managers can use Discoverer Administrator to create Applications mode EULs.

Discoverer end users can connect to an Oracle Applications database using their Oracle e-Business Suite user ID and responsibility. For more information, see Section 15.1, "About Discoverer connections and Oracle e-Business Suite".

An Oracle Applications mode EUL is a Discoverer End User Layer based on an Oracle Applications schema (containing the Oracle Applications FND (Foundation) tables and views).

Oracle Applications EULs make use of the following Oracle Applications security model features:

- Oracle Applications users and responsibilities

  Oracle Applications EULs employ Oracle Applications user names and responsibilities whereas standard EULs use database users and roles. Discoverer managers running Discoverer Administrator in Oracle Applications mode grant access permissions or task privileges to Oracle Applications responsibilities instead of roles.

- Oracle Applications row level security

  Many Oracle Applications tables and views are user-sensitive, and will return different results depending on which user/responsibility is used to access these

tables/views. Discoverer correctly runs queries that respect these user-sensitive tables and views.

- Oracle Applications multiple organizations

  Oracle Applications multiple organizations support enables Discoverer to work with data from more than one organization. Discoverer end users can query and analyze data from the set of organizations to which they have been granted access. The folders in the EUL must be based on Oracle Business Views (available in Oracle Applications 11*i*).

  For more information about the Oracle Applications security model and how Discoverer uses it, see *Oracle Business Intelligence Discoverer Administration Guide*.

Notes

- Oracle Application Server Single Sign-On does not work within BIS, EDW, or DBI Web pages.

14.5 About Discoverer and the OracleAS Security model

Note: This section only applies if the Discoverer installation is associated with an OracleAS Infrastructure. For more information, see Section 2.1, "About installing Oracle Business Intelligence".

OracleAS Security is an integrated management and security framework that provides:

- central management for OracleAS and the Oracle environment to reduce total cost of ownership
- out-of-box monitoring, alerting, and diagnostics to eliminate unexpected downtime and performance problems
- end-to-end performance monitoring of Web applications, and root cause analysis to resolve performance bottlenecks
- a complete and integrated identity management infrastructure for user management, provisioning, Single Sign-On and Public Key infrastructure
- advanced security and identity management features to ensure end-to-end security of deployed Web applications

The OracleAS Security model comprises:

- OracleAS Framework Security
- Oracle Identity Management infrastructure
- Oracle Advanced Security

To make sure that Discoverer fully leverages the OracleAS Security model:

- use the HTTPS services provided by OracleAS Framework Security (for more information, see Section 14.6, "Using Discoverer with OracleAS Framework Security")
- use the Single Sign-On services provided by Oracle Identity Management infrastructure (for more information, see Section 14.7, "Using Discoverer with Oracle Identity Management Infrastructure")

In addition, the OracleAS Security model underpins the Discoverer connection mechanism (for more information, see Section 14.5.1, "About Discoverer public connections and the OracleAS Security model").

For more information about OracleAS Security, see:

- *Oracle Application Server Security Guide*
- *Oracle Identity Management Concepts and Deployment Planning Guide*

14.5.1 About Discoverer public connections and the OracleAS Security model

Discoverer managers can give users access to information by using Oracle Application Server Control to create public connections. Each connection specifies an EUL containing one or more business areas.

Discoverer managers can control users' access to information by restricting users to using public connections or by giving users permission to create their own private connections.

For more information about connections, see Chapter 4, "Managing OracleBI Discoverer connections".

14.6 Using Discoverer with OracleAS Framework Security

OracleAS Framework Security provides a number of services, including:

- HTTPS/SSL support (using Oracle HTTP Server)
- user authentication and authorization (using Java Authentication and Authorization Service (JAAS), also known as JAZN)
- encryption (using Java Cryptography Extension (JCE))

You can specify that Discoverer uses the HTTPS/SSL support offered by the Oracle HTTP Server as one of the communication protocols to communicate between the Discoverer server and the Discoverer client tier components. For more information, see:

- Section 14.6.1, "About specifying Discoverer communication protocols"
- Section 14.6.2, "About Discoverer Viewer security and communication protocols"
- Section 14.6.3, "About Discoverer Plus security and communication protocols"

For more information about OracleAS Framework Security, see *Oracle Application Server Security Guide*.

Notes

- When you install Oracle Business Intelligence, SSL is installed automatically and enabled by default (i.e. the start-mode parameter in opmn.xml is set to 'ssl-enabled'). For more information, see *Oracle HTTP Server Administrator's Guide*.

14.6.1 About specifying Discoverer communication protocols

You can use Discoverer in different network environments that might or might not include firewalls using different communication protocols (i.e. JRMP, HTTP, HTTPS).

The most appropriate network environment depends on both existing network strategies in your organization as well as your requirements for:

- performance (how long it takes to display information)
- accessibility (whether data has to be accessed through a firewall)
- security (how secure the data needs to be during transmission)

Note that you must use HTTPS if you want to make sure that sensitive information (e.g. passwords, data) is securely transmitted across a network.

Discoverer Viewer and Discoverer Plus require different security configurations:

- for more information about configuring security for Discoverer Viewer, see Section 14.6.2, "About Discoverer Viewer security and communication protocols"
- for more information about configuring security for Discoverer Plus, see Section 14.6.3, "About Discoverer Plus security and communication protocols"

Notes

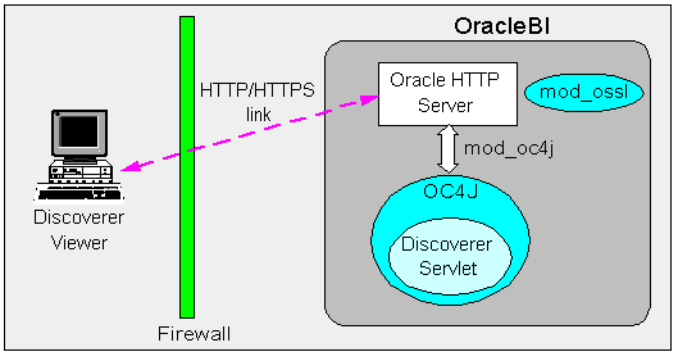
- If you are deploying OracleBI Discoverer with OracleAS Web Cache, there are security implications for some restricted user environments.

  For more information, see:

  - Section 8.4, "When to use Discoverer Viewer with OracleAS Web Cache"
  - *Oracle Application Server Security Guide*
- If you have deployed Discoverer in a multiple machine installation, note that you might want to specify different communication protocols on different Discoverer middle tier machines. For example, you might use:
  - the JRMP protocol on one machine for Plus users working inside a firewall
  - the HTTPS protocol on two other machines for Viewer users accessing reports across the Web

14.6.2 About Discoverer Viewer security and communication protocols

Discoverer Viewer uses standard HTTP or HTTPS protocols to connect Discoverer Viewer clients to the Discoverer servlet.



Note: Discoverer Viewer client machines require only a standard Web browser to run Discoverer Viewer.

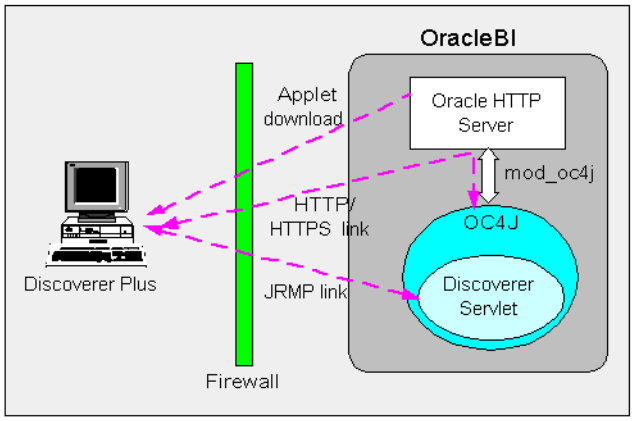
In a default OracleAS installation, Discoverer Viewer is configured as follows:

- In a HTTP environment, no additional security configuration is required. If you are using a firewall, open the firewall for the Oracle HTTP Server port used by OracleAS (e.g. 80).
- If you are using a firewall, open the firewall for the Oracle HTTP Server SSL port used by OracleAS (e.g. 4443). In a HTTPS environment, Discoverer Viewer uses SSL security certificates on the client machine's browser. If you are using a non-standard or private SSL signing authority, you need to install the root

certificates in the browser. For more information about deploying Discoverer Viewer over HTTPS, see Section 3.5, "About running Discoverer over HTTPS").

14.6.3 About Discoverer Plus security and communication protocols

Discoverer Plus uses standard Java Remote Method Protocol (JRMP), HTTP, or HTTPS protocols to connect clients to the Discoverer servlet.



Discoverer Plus uses two communication channels:

- when a Discoverer Plus client first connects to the Discoverer servlet, the Discoverer Plus applet is downloaded and installed on the Discoverer client machine
- after the Discoverer Plus applet is installed on the Discoverer client machine, the Discoverer Plus client machine uses one of JRMP, HTTP, or HTTPS to communicate with the Discoverer servlet

In a default OracleAS installation, Discoverer Plus is configured as follows, depending on the environment:

- In an Intranet environment (i.e. inside firewalls), no additional security configuration is required. Discoverer Plus clients connect to the Discoverer servlet using the JRMP protocol.

  Make sure that the default Discoverer Plus communication protocol (i.e. Default) is selected (for more information, Section 14.6.3.4, "How to set up Discoverer Plus to use the Default communication protocol").

- In a HTTPS environment, Discoverer Plus uses security certificates on the client machine's browser. When you run Discoverer Plus for the first time over HTTPS (i.e. in Secure Sockets Layer (SSL) mode), you need to install your Web server's security certificate into the Java Virtual Machine (JVM) certificate store in all client machines that need to run Discoverer Plus.

  Note: To deploy Discoverer Plus over HTTPS, you must select the Secure Tunneling security protocol in Oracle Application Server Control (Section 14.6.3.6, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol").

  For more information about deploying Discoverer Plus over HTTPS, see Section 3.5, "About running Discoverer over HTTPS").

  If you are using a non-standard SSL signing authority, you might need to configure the certdb.txt file on client machines (for more information, see

Section 14.6.3.1, "About configuring Discoverer Plus for a non-standard SSL signing authority"). If you are using a firewall, open the firewall for the Oracle HTTP Server SSL port used by OracleAS (e.g. port 4443 on a UNIX middle tier or 443 on a Windows middle tier).

Notes

- You typically use the same communication protocol to download the Discoverer applet as you do for communication with the Discoverer servlet (for more information, see Section 14.6.3.2, "About specifying a Discoverer Plus communication protocol").

14.6.3.1 About configuring Discoverer Plus for a non-standard SSL signing authority

If you are deploying Discoverer Plus using a non-standard or private SSL signing authority, you need to make sure that the root certificate information is in the certdb.txt file on each client machine (for more information about the location of configuration files, see Appendix A, "OracleBI Discoverer configuration files"). Certificate information is required in the certdb.txt file because Discoverer Plus ignores the browser's signing authority and uses Oracle's SSL technology.

For more information about Discoverer and SSL, see Section 3.5, "About running Discoverer over HTTPS".

14.6.3.2 About specifying a Discoverer Plus communication protocol

Using Application Server Control, you can specify which communication protocol the Discoverer Plus applet (i.e. the Discoverer client) and the Discoverer servlet (i.e. on the Discoverer middle tier) use to communicate. The three communication protocol options are:

- Default

  Specify this option if you want the Discoverer Plus applet to attempt to use JRMP and if this fails, to use HTTP or HTTPS (depending on the URL) to communicate with the Discoverer servlet.

  The advantage of using the Default communication protocol is that Discoverer Plus works regardless of whether the client browser is running inside or outside a firewall. However, it will be slower outside the firewall on the initial connection because JRMP will be tried first.

  For more information about specifying this option, see Section 14.6.3.4, "How to set up Discoverer Plus to use the Default communication protocol".

- Tunneling

  Specify this option if you want the Discoverer Plus client to connect using the same method to communicate with the Discoverer servlet as was originally used to download the applet itself (i.e. either HTTP or HTTPS depending on the URL). This option works regardless of whether a firewall is being used.

  The advantage of using the Tunneling communication protocol is that it is quicker than the Default option, because JRMP is not attempted first before failing and trying again using HTTP or HTTPS.

  For more information about specifying this option, see Section 14.6.3.5, "How to set up Discoverer Plus to use the Tunneling communication protocol".

- Secure Tunneling

Specify this option if you want the Discoverer Plus client to always use HTTPS to communicate with the Discoverer servlet.

The advantage of using the Secure Tunneling communication protocol is that it is quicker than the Default option, because JRMP is not attempted first before failing and trying again using HTTPS.

For more information about specifying this option, see Section 14.6.3.6, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol".

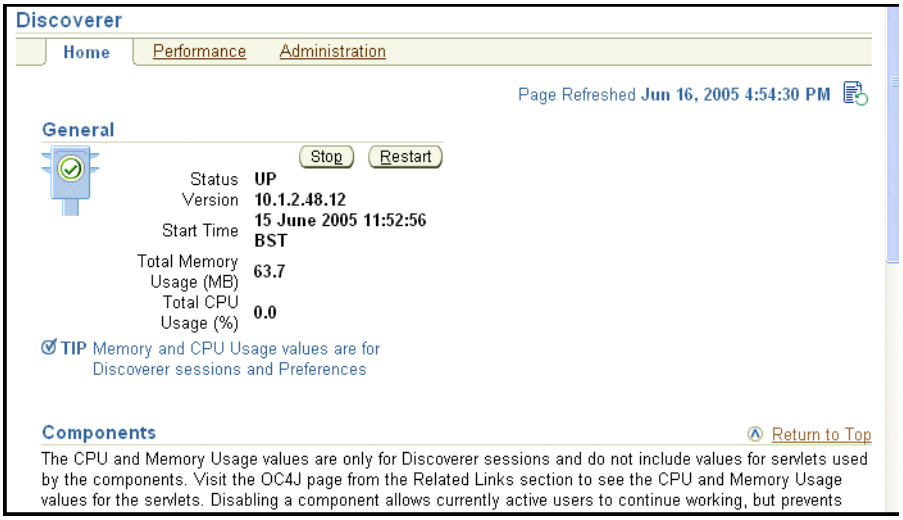
Note: If you deploy Discoverer Plus over HTTPS, end users must use a HTTPS URL. If they use a HTTP URL, Discoverer will not start (for more information about troubleshooting HTTPS problems, see Section D.1.7, "Discoverer Plus reports RMI error").

14.6.3.3 How to display the OracleBI Discoverer Plus Communications Protocols page in Application Server Control

You use the Discoverer Plus Communication Protocols page in Application Server Control to specify a Discoverer Plus communication protocol. For example, if you want to encrypt Discoverer Plus data, you might want to configure Discoverer Plus to use the HTTPS communication protocol.

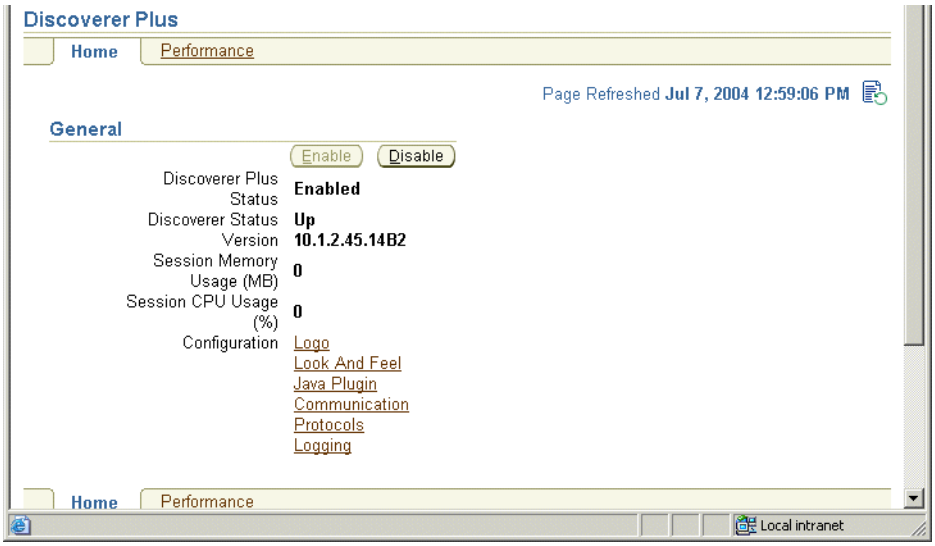
To display the OracleBI Discoverer Plus Configuration page in Application Server Control:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").

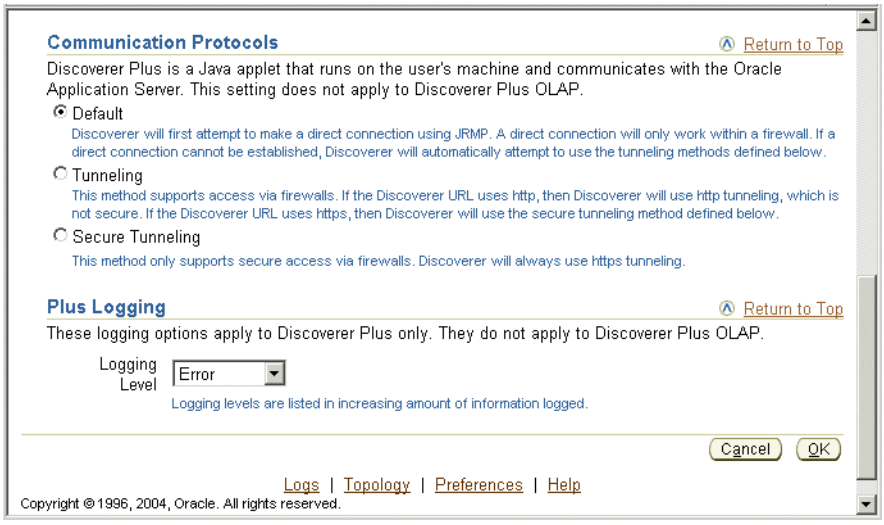


2. Select the **Discoverer Plus** link to display the Application Server Control Discoverer Plus Home page.

   Hint: To display the Discoverer Plus link, either scroll down the page to the Components area, or select the **Components** link.



3. Select the **Communication Protocols** link to display the Communication Protocols page.



14.6.3.4 How to set up Discoverer Plus to use the Default communication protocol

To set up Discoverer Plus to use the Default communication protocol:

1. Display Application Server Control and navigate to the OracleBI Discoverer Plus Communication Protocols page (for more information, see Section 14.6.3.3, "How to display the OracleBI Discoverer Plus Communications Protocols page in Application Server Control").
2. Select the **Default** radio button from the **Communication Protocols** options.
3. Click OK to save the details.
4. Give Discoverer Plus users the URL of the Discoverer servlet:

   For example, http://<*host.domain*>:80/discoverer/plus

   The Discoverer Plus applet will attempt to use JRMP. If JRMP is not available, the Discoverer Plus applet will use HTTP or HTTPS (depending on the URL) to communicate with the Discoverer servlet.

Note: This option works regardless of whether the applet is running inside or outside a firewall. However, it will be slower outside the firewall because JRMP will be tried first. For more information about the other options on this page, refer to Section 14.6.3.2, "About specifying a Discoverer Plus communication protocol".

14.6.3.5 How to set up Discoverer Plus to use the Tunneling communication protocol

You use the Secure Tunneling option when you want to run Discoverer Plus over HTTP.

To set up Discoverer Plus to use the Tunneling communication protocol:

1. Display Application Server Control and navigate to the OracleBI Discoverer Plus Communication Protocols page (for more information, see Section 14.6.3.3, "How to display the OracleBI Discoverer Plus Communications Protocols page in Application Server Control").
2. Choose the **Tunneling** radio button from the **Communication Protocols** options.
3. Click OK to save the details.
4. (optional) If you are using a firewall, open the appropriate port in the firewall to accept HTTP or HTTPS traffic as appropriate.
5. Give Discoverer Plus users the URL of the Discoverer servlet:

   For example, http://<*host.domain*>:80/discoverer/plus

   The Discoverer Plus applet will use the same protocol to communicate with the Discoverer servlet as was originally used to download the applet itself (i.e. either HTTP or HTTPS). This option works regardless of whether a firewall is being used.

14.6.3.6 How to set up Discoverer Plus to use the Secure Tunneling communication protocol

You use the Secure Tunneling option when you want to run Discoverer Plus over HTTPS.

To set up Discoverer Plus to use the Secure Tunneling communication protocol:

1. Display Application Server Control and navigate to the OracleBI Discoverer Plus Communication Protocols page (for more information, see Section 14.6.3.3, "How to display the OracleBI Discoverer Plus Communications Protocols page in Application Server Control").
2. Choose the **Secure Tunneling** radio button from the **Communication Protocols** options.
3. Click OK to save the details.
4. (optional) If you are using a firewall, open the appropriate port in the firewall to accept HTTP or HTTPS traffic as appropriate.
5. Give Discoverer Plus users the URL of the Discoverer servlet:

   For example, https://<host.domain>:4443/discoverer/plus

The Discoverer Plus applet will use the HTTPS protocol to communicate with the Discoverer servlet.

When a Discoverer end user starts Discoverer Plus for the first time on a client machine, they are prompted to confirm that they want to accept a default security

certificate. Before selecting the Yes option on the Security Alert dialog, the Discoverer end user must install a Discoverer Plus security certificate on the client machine (for more information, see Section 3.5.1, "How to install a security certificate on a Discoverer Plus client machine").

14.7 Using Discoverer with Oracle Identity Management Infrastructure

Note: This section only applies if the Discoverer installation is associated with an OracleAS Infrastructure. For more information, see Section 2.1, "About installing Oracle Business Intelligence".

Oracle Identity Management Infrastructure provides a number of services, including:

- OracleAS Single Sign-On
- OracleAS Certificate Authority
- Oracle Internet Directory (OID)
- Oracle Delegated Administration Services
- Oracle Directory Integration and Provisioning
- LDAP Developer Kit

You can specify that Discoverer uses OracleAS Single Sign-On to enable users to access Discoverer using the same user name and password as other Web applications. For more information, see:

- Section 14.7.1, "Using Discoverer with OracleAS Single Sign-On"
- Section 14.7.2, "What is OracleAS Single Sign-On?"

For more information about Oracle Identity Management Infrastructure, see *Oracle Identity Management Concepts and Deployment Planning Guide*.

14.7.1 Using Discoverer with OracleAS Single Sign-On

This section describes OracleAS Single Sign-On and how to use it with Discoverer.

14.7.2 What is OracleAS Single Sign-On?

OracleAS Single Sign-On is a component of Oracle Application Server that enables users to access multiple Web applications (e.g. OracleBI Discoverer and OracleAS Portal) using a single user name and password that is entered once.

Note: OracleAS Single Sign-On is implemented using Oracle Single Sign-On Server.

14.7.2.1 About Single Sign-On and Discoverer

When you install OracleAS, the OracleAS Single Sign-On service is installed automatically, but it is not enabled by default for Discoverer. For information about how to enable OracleAS Single Sign-On, see Section 14.7.2.2, "How to enable and disable Single Sign-On for Discoverer".

Discoverer connections work in both Single Sign-On and non-Single Sign-On environments. In an OracleAS Single Sign-On environment, if a Discoverer end user starts Discoverer without having been authenticated by OracleAS Single Sign-On, the user is challenged for Single Sign-On details (user name and password). Having provided Single Sign-On details, the user can display the Discoverer connections page and start Discoverer without having to enter a user name or password again.

Note: For more information about how OracleBI Discoverer works with OracleAS Portal and Single Sign-On, see Section 14.7.2.3, "An example showing how Discoverer works with OracleAS Portal and Single Sign-On".

Notes

- Oracle Application Server Single Sign-On does not work within BIS, EDW, or DBI Web pages.

14.7.2.2 How to enable and disable Single Sign-On for Discoverer

You enable and disable Single Sign-On on the OracleBI Discoverer instance.

To enable and disable Single Sign-On, do the following:

1. Open the mod_osso.conf file in a text editor (for more information about the location of configuration files, see Section A.1, "List of Discoverer file locations").
2. To enable Single Sign-On for Discoverer, add the following text to the end of the file:

```
<Location /discoverer/plus>
require valid-user
AuthType Basic
</Location>
<Location /discoverer/viewer>
require valid-user
AuthType Basic
</Location>
<Location /discoverer/app>
require valid-user
AuthType Basic
</Location>
```

3. To disable Single Sign-On for Discoverer, remove the following text from the file:

```
<Location /discoverer/plus>
require valid-user
AuthType Basic
</Location>
<Location /discoverer/viewer>
require valid-user
AuthType Basic
</Location>
<Location /discoverer/app>
require valid-user
AuthType Basic
</Location>
```

4. Save the mod_osso.conf file.
5. Type the following at a command prompt:

```
opmnctl stopall
opmnctl startall
```

Notes

- Do **not** enable SSO for the URL /discoverer/portletprovider. Discoverer relies on OracleAS Portal to protect the /discoverer/portletprovider URL. In other words, do not specify the Location value as /discoverer, as follows:

```
<Location /discoverer/portletprovider>

require valid-user
```

```
AuthType Basic
</Location>
```

- Make sure that the OssoIPCheck parameter value in the mod_osso.conf file is set to off.
- If you use OracleAS Web Cache to cache Discoverer Viewer pages, note that caching for Discoverer does not work if Single Sign-On is enabled.

14.7.2.3 An example showing how Discoverer works with OracleAS Portal and Single Sign-On

When you publish Discoverer content in a portlet on an OracleAS Portal page, you give portal users access to the Discoverer workbooks and worksheets. However, portal users accessing Discoverer workbooks only see data to which they have database access. In other words, two different users accessing the same workbook might see different data, depending on their database privileges. For more information, see Section 11, "Using OracleBI Discoverer with OracleAS Portal".

To illustrate how OracleBI Discoverer works with OracleAS Portal, consider the following example:

Imagine that there are two Single Sign-On users:

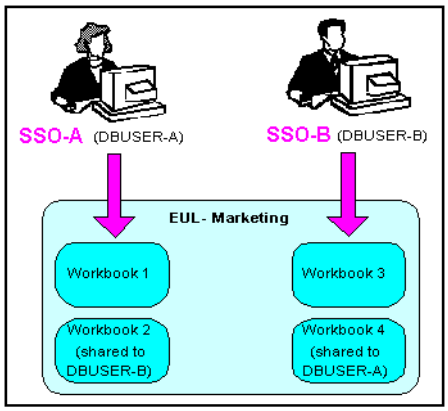
- User SSO-A has a private connection Conn-A pointing to DBUSER-A@discodb, EUL-Marketing.
- User SSO-B has a private connection Conn-B pointing to DBUSER-B@discodb, EUL-Marketing.

User SSO-A using connection Conn-A creates two workbooks Workbook 1 and Workbook 2 in the Marketing EUL. User SSO-A uses Discoverer Plus to share Workbook 2 with DBUSER-B.

User SSO-B using connection Conn-B creates two workbooks Workbook 3 and Workbook 4 in the Marketing EUL. User SSO-B uses Discoverer Plus to share Workbook 4 with DBUSER-A.

This situation is shown in the figure below:

Figure 14–1 Single Sign-On users creating workbooks



Now imagine that user SSO-A creates a List of Worksheets portlet using Conn-A, and chooses the 'Use user's database connection' option in the **Logged In users** section (i.e. in the Select Database Connections page in the Discoverer Portlet Provider).

When user SSO-A accesses the List of Worksheets portlet, worksheets in the following workbooks are available:

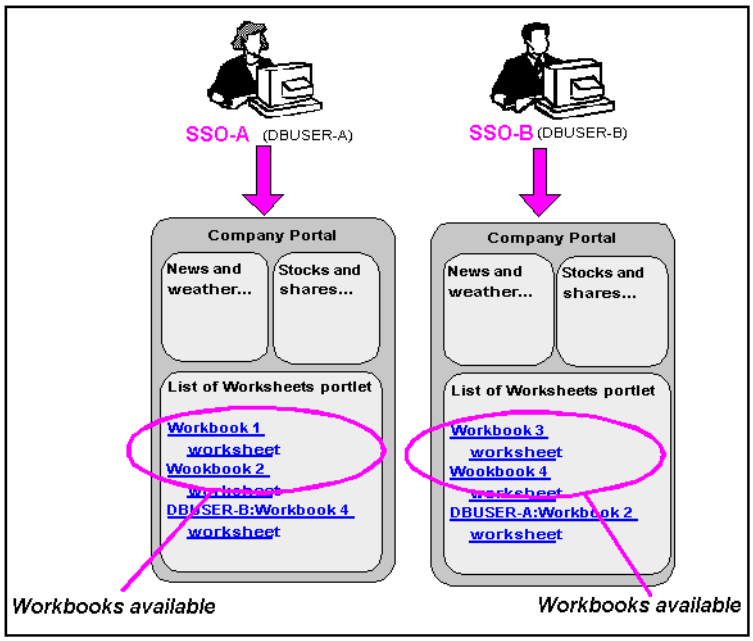
- Workbook 1
- Workbook 2
- DBUSER-B.Workbook 4

When user SSO-B accesses the same List of Worksheets portlet, worksheets in the following workbooks are available:

- Workbook 3
- Workbook 4
- DBUSER-A.Workbook 2

This situation is shown in the figure below:

Figure 14–2 Single Sign-On users accessing Discoverer portlets



14.7.3 Using Discoverer without Single Sign-On

If you are not deploying Discoverer with Single Sign-On, end users must confirm the database password each time a private connection is used. In other words, when a Discoverer end user chooses a private connection for the first time in a browser session, they are prompted to confirm the database password.

If the end user closes the Web browser and then starts the Web browser again (i.e. creates a new browser session), they are prompted to confirm their database password. End users do not have to confirm passwords for public connections (for more information, see Section 4.2.2, "About public connections").

Notes

- To store private Discoverer connections in non-SSO environments, cookies must be enabled in the Web browser.

- In non-SSO environments, a Discoverer end user can only access private connections created using the current machine and current Web browser. If an end user wants to use a different machine or different Web browser, they must re-create the private connections.

14.8 Discoverer support for Single Sign-On details propagation

This section explains how you can use Discoverer in conjunction with a Virtual Private Database (VPD) using Single Sign-On (SSO) details, and contains the following topics:

Notes

- Discoverer does not support Single Sign details propagation when running against a multidimensional data source (e.g. in Discoverer Plus OLAP). You can create a VPD using the database ID, and using the D4O_AUTOGO file to control scoping (or striping) in the database when starting a Discoverer Plus OLAP session. For more information, refer to the appropriate Oracle database documentation.

  For more information about configuring Discoverer Plus OLAP, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".

- Discoverer only uses the SSO identity to determine what data is accessible. Discoverer uses database user names and roles internally to manage business area access, workbook sharing, and scheduling. In other words, if you create a VPD policy for an SSO user, Discoverer does not restrict the list of workbooks that it displays based on the SSO identity. Discoverer will display all workbooks available to the current user name/database connection regardless of the SSO user name that was used to log in. However, the SSO user will only be able to view worksheet data that conforms to the VPD policy defined for that SSO user.

14.8.1 Introducing Virtual Private Databases, Single Sign-On, and Discoverer

The Oracle9i Release 1 (and later) Enterprise Edition database's powerful Virtual Private Database (VPD) feature enables you to define and implement custom security policies. Among other things, the VPD feature enables you to enforce fine-grained access control based upon attributes of a user's session information (referred to as application context). This VPD functionality is commonly employed as a way of controlling access to data using the currently logged-on user's Single Sign-On (SSO) identity. For more information about setting up a VPD, see Oracle9i Application Developer's Guide - Fundamentals.

If Discoverer has been configured to require SSO authentication, Discoverer can pass a Discoverer end-user's SSO user name to the database (as the CLIENT_IDENTIFIER attribute of the built-in application context USERENV). Providing a VPD policy based on SSO user names has been implemented in the database, the data returned to a Discoverer worksheet will be restricted to the data that the SSO user is authorized to access.

You can optionally add user-defined PL/SQL statements to both database LOGON (and subsequent) triggers and to a Discoverer trigger (eul_trigger$post_login) to use the SSO user name to further control the data that is returned. You can use the database and Discoverer triggers separately or in conjunction with each other.

14.8.2 Example showing how SSO user names can limit Discoverer data

The Discoverer manager at Acme Corp. does the following:

1. Configures the Discoverer middle tier machines so that SSO authentication is necessary to access the Discoverer URLs.
2. Creates a Discoverer public connection called 'Analysis', that has access to a workbook called 'Sales'.
3. Creates a VPD policy against the base tables of the workbooks. The VPD policy determines the data that is returned, based on the value of a variable called 'CONTEXT1'.
4. Creates a database LOGON trigger that sets variable CONTEXT1 to the value of the SSO user name (extracted from the application context information passed to the database by Discoverer).

The Sales workbook is used by two Discoverer users at ACME Corp., Fred Bloggs and Jane Smith. A typical workflow for these two users is shown below:

1. User 'Fred.Bloggs' authenticates via SSO and accesses the top level Discoverer URL.
2. Fred selects the public connection 'Analysis', and opens the workbook 'Sales'.
3. Fred views the data in the default worksheet, and then logs out.
4. User 'Jane.Smith' authenticates via SSO and accesses the top level Discoverer URL.
5. Jane selects the public connection 'Analysis', and then opens workbook 'Sales'.
6. Jane views the data in the default worksheet.

Jane sees different data to Fred, despite the identical database connection, workbook, worksheet and database query. The difference is determined by the VPD policy being based on SSO user identities.

14.8.3 What tasks are required to use SSO user names to limit Discoverer data

Before the data shown in a Discoverer worksheet can be controlled using SSO user names, a Discoverer manager performs the following tasks:

- configures the Discoverer middle tier machines so that SSO authentication is necessary to access the Discoverer URLs (for more information, Section 14.7.2.2, "How to enable and disable Single Sign-On for Discoverer")
- creates a Discoverer public connection, with access to one or more workbooks (for more information, see Section 4.6, "How to create public connections")

- creates a VPD policy against the base tables of the workbooks, if one does not exist already (for more information about how to create a VPD policy, see *Oracle9i Application Developer's Guide - Fundamentals*
- (optional) configures a Discoverer Worksheet portlet to use SSO user names (for more information, see Section 14.8.4, "How to set up Discoverer Worksheet Portlets to show different data based on SSO user name")
- (optional) creates or modifies database LOGON (and subsequent) triggers to use the SSO user name to further control the data that is available to the SSO user (for more information, see Section 14.8.6, "How to modify database LOGON (and subsequent) triggers to use the SSO user name")
- (optional) creates a function to be executed by the eul_trigger$post_login trigger, and registers the function using Discoverer Administrator (for more information, see Section 14.8.7, "How to use the eul_trigger$post_login trigger")

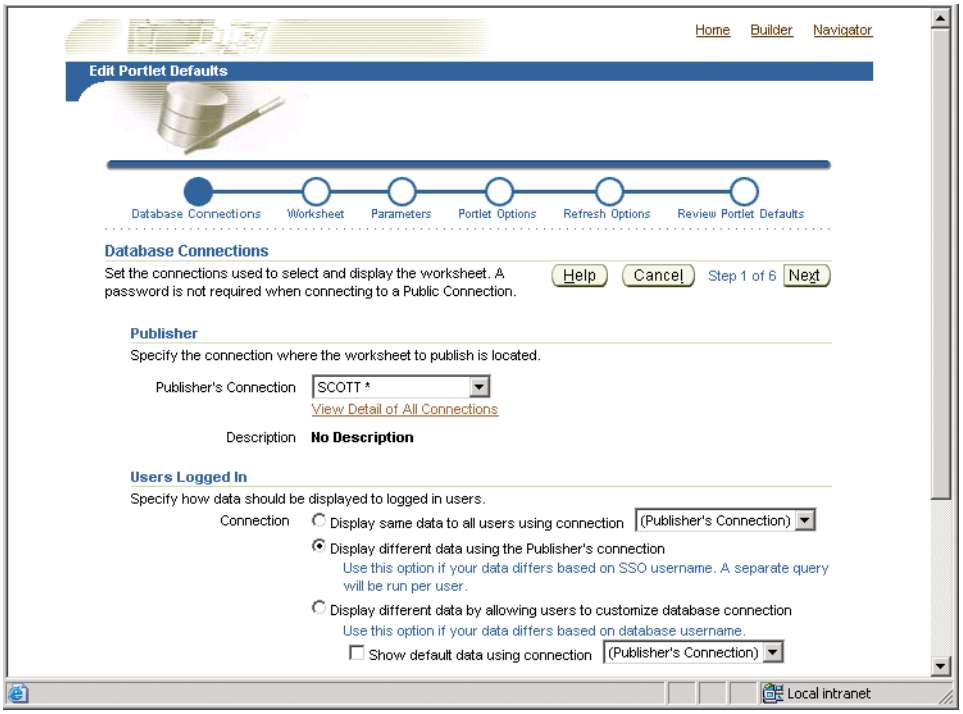
14.8.4 How to set up Discoverer Worksheet Portlets to show different data based on SSO user name

Having created a VPD policy in the database that uses SSO user names to determine the data that users can access, you can set up a Discoverer Worksheet portlet to only show the data that can be accessed by the current SSO user name.

To specify that users only see the data they can access with their SSO user name:

1. In the **Users Logged In** region of the Select Database Connections setup page for the Discoverer Worksheet Portlet.

2. Select the **Display different data using the Publisher's connection** radio button.



When you select the above option, Discoverer passes the worksheet portlet user's SSO user name to the database. The VPD policy can then use the SSO user name to restrict the data that is returned to the worksheet portlet.

14.8.5 When to use other options in the Users Logged In region of the Select Database Connections page

If you want all users to always see the same data from the database regardless of their own database user names or SSO user names, do the following in the Select Database Connections setup page for the Discoverer Worksheet Portlet:

1. Select the **Display same data to all users using <Publisher's Connection>** radio button.

If you want users to initially see the same data from the database (regardless of their own database user names or SSO user names) but to give them the option of specifying an alternative database user name:

1. Select the **Display different data by allowing users to customize database connection** radio button.
2. Select the **Show default data using <Publisher's Connection>** check box.

14.8.6 How to modify database LOGON (and subsequent) triggers to use the SSO user name

You can modify database LOGON (and subsequent) triggers to use the SSO user name passed by Discoverer to further control the data that is available to the SSO user. For example, you might want to call custom PL/SQL functions that take the SSO user name to perform application specific initialization.

To modify database triggers to use the SSO user name:

1. Create a suitable database trigger.
2. Add the required code to manipulate the SSO user name.

   Hint: To return the SSO user name passed by Discoverer, query the CLIENT_IDENTIFIER attribute of the USERENV application context namespace using the following function call:

   SYS_CONTEXT('USERENV', 'CLIENT_IDENTIFIER')

Notes

- The SSO user name passed by Discoverer is available as early as the execution of the database LOGON trigger.
- If Discoverer has not been configured to use SSO, the SYS_CONTEXT function call above will return NULL.
- The SSO user name is only available with Oracle9i Release 1 (and later) databases.

14.8.7 How to use the eul_trigger$post_login trigger

You can use the eul_trigger$post_login trigger instead of, or in conjunction with, the database LOGON (and subsequent) triggers to further control the information that is displayed in a Discoverer worksheet based on the SSO user name. Use the eul_trigger$post_login trigger (rather than the database triggers) if:

- you want trigger code to affect just Discoverer users, not all database users
- you do not have DBA privilege (and therefore cannot modify the database LOGON (or subsequent) trigger code)

To use the eul_trigger$post_login trigger:

1. Define a PL/SQL function in the database that:
   - has a return type of integer
   - does not take any arguments
2. Add the required code to manipulate the SSO user name.

   Hint: To return the SSO user name passed by Discoverer, query the CLIENT_IDENTIFIER attribute of the USERENV application context namespace using the following function call:

   SYS_CONTEXT('USERENV', 'CLIENT_IDENTIFIER')
3. Register the function with Discoverer Administrator and give it the following properties:
   - Name: eul_trigger$post_login
   - Return type: Integer
   - Arguments: none

     For more information about registering PL/SQL functions and using Discoverer EUL triggers, see the *Oracle Business Intelligence Discoverer Administration Guide*.
4. If the Database/EnableTriggers preference exists in the pref.txt file, set it to a value other than zero.

Notes

- If the Database/EnableTriggers preference does not exist in the pref.txt file, do not create it.
- If the Database/EnableTriggers preference does exist and you have to change its value (i.e. to make it non-zero), you must subsequently:
  1. Run the applypreferences script to apply the preference change.
  2. Stop and restart the OracleBI Discoverer service for the change to take effect.

14.9 Frequently asked questions about security

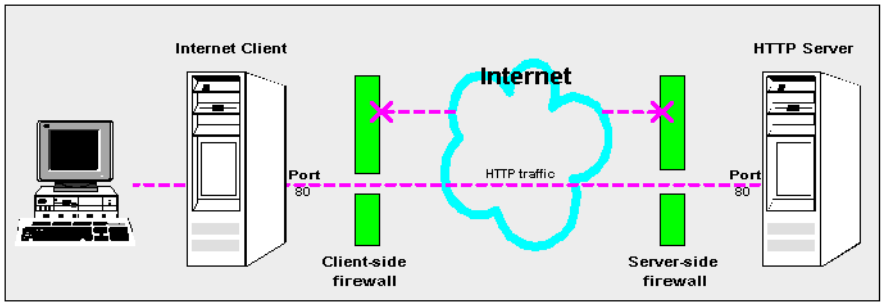
This section contains common security questions and answers.

14.9.1 What is a firewall?

A firewall is one system or a group of several systems put in place to enforce a security policy between the Internet and an organization's network.

In other words, a firewall is an electronic ‘fence’ around a network to protect it from unauthorized access.

Figure 14–3 A typical Internet connection with a Client-side and Server-side firewall

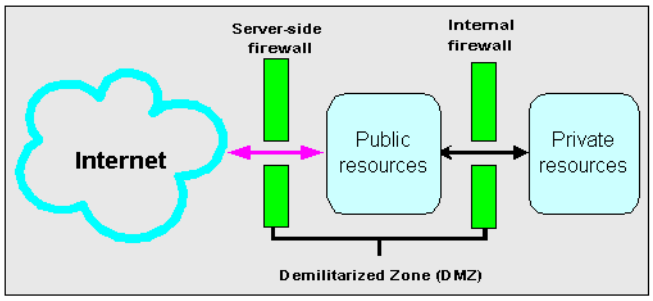


Typically, an organization using a Web Server machine that communicates across the Internet has a firewall between its Oracle HTTP Server machine and the Internet. This is known as a Server-side firewall. Other organizations (or remote parts of the same organization) connecting to this Web Server machine typically have their own firewall, known as a Client-side firewall. Information that conforms to the organization's firewall policy is allowed to pass through the firewalls enabling server machines and client machines to communicate.

14.9.2 What is a demilitarized zone (DMZ)?

A demilitarized zone (DMZ) is a firewall configuration that provides an additional level of security. In this configuration, the DMZ is an extra network placed between a protected network and the Internet. Resources residing within the DMZ are visible on the public Internet, but are secure. DMZs typically hold servers that host a company's public Web site, File Transfer Protocol (FTP) site, and Simple Mail Transfer Protocol (SMTP) server.

Figure 14–4 A Demilitarized Zone (DMZ)



Firewall policies vary across organization and there are a wide variety of bespoke and off-the-shelf firewall packages in use.

A good firewall configuration assumes that resources in the DMZ will be breached, and if this happens should minimize damage to the internal network and any sensitive data residing on the network. This involves two steps:

- move sensitive private resources (at a minimum, databases and application logic) from the DMZ to the internal network behind the internal firewall
- restrict access to sensitive private resources from the DMZ itself, as well as from internal networks

14.9.3 What is HTTPS and why should I use it?

The HTTPS protocol uses an industry standard protocol called Secure Sockets Layer (SSL) to establish secure connections between clients and servers.

The SSL protocol enables sensitive data to be transmitted over an insecure network, such as the Internet, by providing the following security features:

- authentication - a client can determine a server's identity and be certain that the server is not an impostor (and optionally, a client can also authenticate the identity of its server)
- privacy - data passed between the client and server is encrypted so that if a third party intercepts their messages, the third party will not be able to unscramble the data
- integrity - the recipient of encrypted data will know if a third party has corrupted or modified that data

You can tell when SSL is enabled in Discoverer as follows:

- the URL to start Discoverer Plus begins with https://, and a closed padlock appears at the left hand side of the applet's status bar

  Note: To deploy Discoverer Plus over HTTPS, you must select the Secure Tunneling security protocol in Oracle Application Server Control (Section 14.6.3.6, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol").
- the URL to start Discoverer Viewer starts with https://, and a closed padlock or other equivalent symbol (browser dependent) appears in the browser's status bar

14.9.4 How do I configure Discoverer to work in an intranet

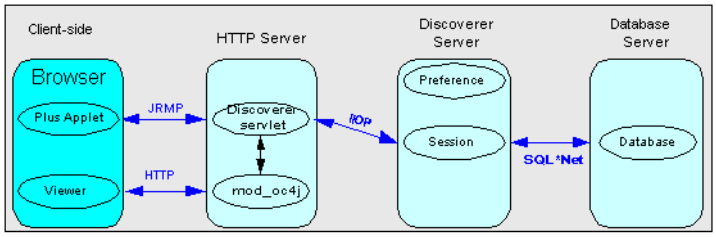
You configure Discoverer to work in an intranet as follows:

- Discoverer Viewer

  Deploying Discoverer Viewer in an intranet (i.e. inside a firewall) requires no additional configuration after an OracleAS installation. Discoverer Viewer uses a HTTP connection.
- Discoverer Plus

  Deploying Discoverer Plus in an intranet (i.e. inside a firewall) requires no additional configuration after an OracleAS installation. Discoverer Plus uses a direct connection using JRMP.

Figure 14–5 A typical network configuration for Discoverer in an intranet



14.9.5 How do I configure Discoverer to work through a firewall?

You configure Discoverer to work through firewalls with HTTP or HTTPS, as follows:

- Discoverer Viewer

  Discoverer Viewer requires no additional configuration as long as the firewall allows HTTP traffic to pass through.

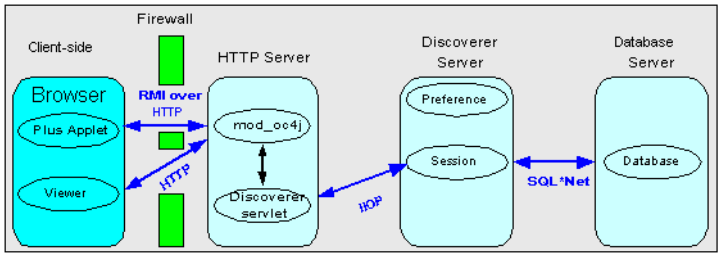
- Discoverer Plus

  Discoverer Plus requires no additional configuration as long as the firewall allows HTTP or HTTPS traffic to pass through.

  To improve performance on initial connection, you might want to change the Discoverer Plus communication protocol to one of the following:

  - for HTTP, set the communication protocol to Tunneling to prevent the Discoverer client from first trying to connect using JRMP, then by HTTP (for more information, see Section 14.6.3.5, "How to set up Discoverer Plus to use the Tunneling communication protocol").
  - for HTTPS, set the communication protocol to Secure Tunneling to prevent the Discoverer client from first trying to connect using JRMP, then by HTTP, then by HTTPS (for more information, see Section 14.6.3.6, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol").

Figure 14–6 A typical firewall configuration for Discoverer using HTTP



14.9.6 Can I configure Discoverer to work through multiple firewalls?

Yes, if you are using HTTP or HTTPS, Discoverer will work through multiple firewalls (for more information, see Section 14.9.5, "How do I configure Discoverer to work through a firewall?").

14.9.7 How do I configure Discoverer to use encryption in an intranet?

You configure Discoverer to use encryption as follows:

- Discoverer Viewer

  Configure mod_ossl to use HTTPS (for more information, see *Oracle HTTP Server Administrator's Guide*) and deploy Discoverer Viewer on a HTTPS URL.

- Discoverer Plus

  Configure mod_ossl to use HTTPS (for more information, see *Oracle HTTP Server Administrator's Guide*) and deploy Discoverer Plus on a HTTPS URL. You must change the Discoverer Plus communication protocol to Secure Tunneling (for more information, see Section 14.6.3.6, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol").

14.9.8 How do I configure Discoverer to use encryption through firewalls?

You configure Discoverer to use encryption through firewalls as follows:

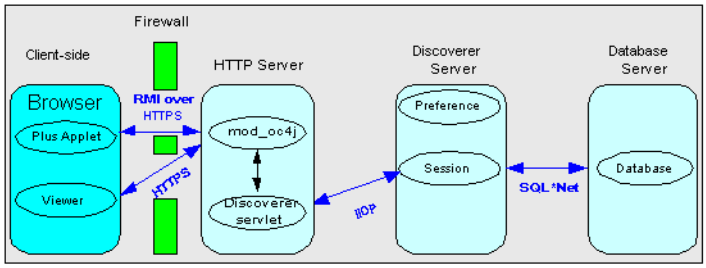
- Discoverer Viewer

  Configure Discoverer Viewer to work through a firewall (for more information, see Section 14.9.5, "How do I configure Discoverer to work through a firewall?"). Then, make sure that the firewall(s) allow HTTPS traffic to pass through.

- Discoverer Plus

  Configure Discoverer Plus to work through a firewall (for more information, see Section 14.9.5, "How do I configure Discoverer to work through a firewall?"). Then, make sure that the firewall(s) allow HTTPS traffic to pass through.

Figure 14–7 A typical firewall configuration for Discoverer using HTTPS



14.9.9 How can I verify that Discoverer is encrypting communications?

In Discoverer Viewer, make sure that client browsers display a closed padlock or other equivalent symbol (browser dependent) in the Discoverer Viewer browser's status bar.

In Discoverer Plus, make sure that the client displays a closed padlock symbol in the bottom left-hand corner of the Discoverer Plus applet window.

14.9.10 Can I configure Discoverer for both intranet users and users accessing Discoverer through a firewall?

Yes, you can configure Discoverer for both intranet users and Internet users. For example, if you use the Default Discoverer Plus communication protocol:

- sessions connecting from inside the firewall use a direct JRMP connection because JRMP is a direct connection that only works inside a firewall
- sessions connecting from outside the firewall automatically use a HTTP or HTTPS connection (depending on the URL)

14.9.11 Can I use Discoverer with a NAT device?

Yes, you can deploy Discoverer using any standard Network Address Translation (NAT) device.

15

OracleBI Discoverer and Oracle e-Business Suite

Note: This chapter only applies to Discoverer Plus Relational and Discoverer Viewer. For more information about configuring Discoverer Plus OLAP, see Chapter 6, "Configuring the Discoverer Catalog and Discoverer Plus OLAP".

This chapter explains how OracleBI Discoverer provides capabilities for integrating with Oracle e-Business Suite, and contains the following topics:

- Section 15.1, "About Discoverer connections and Oracle e-Business Suite"
- Section 15.2, "About Discoverer private connections, OracleAS Single Sign-On and Oracle e-Business Suite users"
- Section 15.3, "About Discoverer preference settings for Oracle e-Business Suite"

For information about Discoverer and Oracle e-Business Suite certification, see Section D.1.2, "Discoverer and Oracle Applications certification".

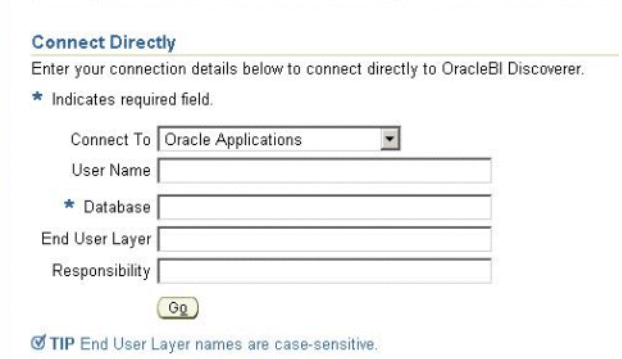
Note: The terms Oracle Applications and Oracle e-Business Suite are used interchangeably in this chapter.

15.1 About Discoverer connections and Oracle e-Business Suite

Discoverer end users can connect to an Oracle Applications database using their Oracle e-Business Suite user ID and responsibility. End users can select an existing connection (i.e. a stored set of database login details) or connect to Discoverer directly. For more information about connecting to Discoverer using an existing connection, see *Oracle Business Intelligence Discoverer Plus User's Guide*.

Oracle e-Business Suite users can connect to Discoverer directly by selecting Oracle Applications from the **Connect To** drop down list in the Connect Directly area on the Connect to Discoverer page.

Figure 15–1 Discoverer Connect Directly area showing Oracle Applications selected using the Connect To drop down list



When an end user connects as an Oracle e-Business Suite user (by selecting the Oracle Applications option from the **Connect To** drop down list), if the end user has more than one Oracle Applications Responsibility, Discoverer prompts them to specify an Applications Responsibility (see figure below).

Figure 15–2 Specifying an Oracle e-Business Suite Responsibility in Discoverer

Notes

- Discoverer is configured for a mixed application environment (i.e. where some users use Oracle e-Business Suite and some do not). In other words, in the **Connect To** field on the login page (or Discoverer Create Connection page), end users can select OracleBI Discoverer, Oracle Applications, or OracleBI Discoverer for OLAP.
- Oracle e-Business Suite security can only apply if you select Oracle Applications from the **Connect To** drop down list. It is not possible to define an OracleBI for OLAP connection that uses e-Business Suite security.
- You can also create public Oracle e-Business Suite connections using Oracle Application Server Control. For more information, refer to Section 4.6, "How to create public connections" or *Oracle Application Server Control Help*.
- A default Oracle e-Business Suite Gateway User ID (GWYUID), password, and Foundation Name (FNDNAM) is specified in the pref.txt configuration file (for more information about preference settings, see Section 15.3, "About Discoverer preference settings for Oracle e-Business Suite").
- For connections when launching Discoverer from the BIS, EDW or DBI home pages, Discoverer uses a DBC file stored in a location specified by the FND_SECURE and FND_TOP variables stored in opmn.xml. For more information about the location of opmn.xml, see Section A.1, "List of Discoverer file locations".

Note: The note above does not apply when users use Oracle e-Business Suite connections from the Connect to OracleBI Discoverer page.

For more information about Database Connection (DBC) files, see *Oracle e-Business Suite System Administrator's Guide*.

- If you have already connected to the database using SSO, and you select an Oracle Applications user that is associated with the SSO user, you do not need to enter a password when you start Discoverer (for more information, see Section 15.2, "About Discoverer private connections, OracleAS Single Sign-On and Oracle e-Business Suite users").

15.2 About Discoverer private connections, OracleAS Single Sign-On and Oracle e-Business Suite users

Oracle e-Business Suite (Oracle Applications) users that are associated with an OracleAS Single Sign-On (SSO) user, can create and use Discoverer private connections without entering a password.

This section contains the following topics:

- Section 15.2.1, "What conditions must be met to enable Oracle Applications users to create or use private connections in Discoverer when using SSO-enabled Oracle Applications databases?"
- Section 15.2.2, "How to enable Oracle Applications users to create or use private connections to SSO-enabled Oracle Applications databases"
- Section 15.2.3, "About interoperability between Discoverer versions and OracleAS Infrastructure versions when using SSO private connections with an SSO-enabled Oracle Applications database"
- Section 15.2.4, "How to migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1"

15.2.1 What conditions must be met to enable Oracle Applications users to create or use private connections in Discoverer when using SSO-enabled Oracle Applications databases?

Oracle Applications users can create or use private connections to Discoverer using SSO, when all of the following conditions are true:

- Oracle Applications users must use Discoverer Version 10.1.2.1 (or later)
- SSO must be installed and enabled for Discoverer

  For more information, see Section 14.7.1, "Using Discoverer with OracleAS Single Sign-On".
- SSO connections must be enabled for Oracle Applications users in Oracle Application Server Control (ASC)

  To enable SSO connections, select the **Allow authenticated OracleAS Single Sign-On (SSO) users to create and use private connections to SSO-enabled Oracle Applications databases, without entering a password** check box on the Discoverer Configuration page in Oracle Application Server Control.

  For more information about how to enable connections to SSO-enabled Oracle Applications databases for Oracle Applications users in this Discoverer

installation, see Section 15.2.2, "How to enable Oracle Applications users to create or use private connections to SSO-enabled Oracle Applications databases".

- Discoverer must be running against an SSO-enabled Oracle Applications database
- Oracle Applications users must be associated with an SSO user

  When you create or use private connections using SSO, you select an Oracle Applications user that is associated with an SSO user, and you are not prompted for password information.

15.2.2 How to enable Oracle Applications users to create or use private connections to SSO-enabled Oracle Applications databases

Oracle Applications users normally enter a password when creating or using private connections. However, Oracle Applications users that are associated with an SSO user can create and use Discoverer private connections without entering a password, when using an SSO-enabled Oracle Applications database.

To enable Oracle Applications users to create or use private connections to SSO-enabled Oracle Applications databases:

1. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
2. Select the **Administration** tab to display the Discoverer Administration page.
3. Select the **Private Connections** link to display the Connect to SSO-enabled Oracle Applications database area.
4. Use the **Allow authenticated OracleAS Single Sign-On (SSO) users to create and use private connections to SSO-enabled Oracle Applications databases, without entering a password** check box to specify whether SSO is enabled for the Discoverer installation, as follows:
   - Select the check box to enable Oracle Applications users (that are associated with an SSO user) to create and use private connections without entering a password (when using an SSO-enabled Oracle Applications database).
   - Clear the check box to disable Oracle Applications users (that are associated with an SSO user) from creating and using private connections without entering a password (when using an SSO-enabled Oracle Applications database).
5. Click OK to save the details.

15.2.3 About interoperability between Discoverer versions and OracleAS Infrastructure versions when using SSO private connections with an SSO-enabled Oracle Applications database

You might be using different Discoverer versions and OracleAS Infrastructure versions, and want to know how they operate together when using SSO private connections with an SSO-enabled Oracle Applications database.

The following tables summarize the interoperability requirements between versions 9.0.4, 10.1.2.0.0 and 10.1.2.1 Oracle Business Intelligence installations, and specify the actions that you must take to make each Discoverer version work with a particular infrastructure version.

Table 15–1 Interoperability requirements between Discoverer versions (excluding Portlet Provider) and OracleAS Infrastructure versions

If you want to use this Discoverer version	With this OracleAS Infrastructure version	Do the following:
10.1.2.1 (excluding Portlet Provider)	10.1.2.1	Do nothing. Oracle Applications users associated with an SSO user can create and use private connections without entering a password.
10.1.2.1 (excluding Portlet Provider)	10.1.2.0.0	Run the migratediscoconnection tool. For more information, see Section 15.2.4, "How to migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1".
10.1.2.1 (excluding Portlet Provider)	9.0.4	Run the migratediscoconnection tool. For more information, see Section 15.2.4, "How to migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1".
10.1.2.0.0 (excluding Portlet Provider)	10.1.2.1	Existing connections will continue to work in 10.1.2.0.0. **Note:** Connections created through this combination will not be visible in 10.1.2.1. Oracle Applications users must enter a password.
10.1.2.0.0 (excluding Portlet Provider)	10.1.2.0.0	Do nothing. Oracle Applications users must enter a password.
10.1.2.0.0 (excluding Portlet Provider)	9.0.4	Do nothing. Oracle Applications users must enter a password.
9.0.4 (excluding Portlet Provider)	10.1.2.1	Existing connections will continue to work in 9.0.4. **Note:** Connections created through this combination will not be visible in 10.1.2.1. Oracle Applications users must enter a password.
9.0.4 (excluding Portlet Provider)	10.1.2.0.0	Do nothing. Oracle Applications users must enter a password.
9.0.4 (excluding Portlet Provider)	9.0.4	Do nothing. Oracle Applications users must enter a password.

Table 15–2 Interoperability requirements between Discoverer Portlet Provider versions and OracleAS Infrastructure versions

If you want to use this Discoverer Portlet Provider version	With this OracleAS Infrastructure version	Do the following:
10.1.2.1	10.1.2.1	Do nothing. Oracle Applications users associated with an SSO user can use private connections without entering a password.
10.1.2.1	10.1.2.0.0	Run the migratediscoconnection tool. For more information, see Section 15.2.4, "How to migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1".
10.1.2.1	9.0.4	Upgrade the DISCOVERER5 schema in the Metadata Repository using the upgradeMR script, and run the migratediscoconnection tool. For more information, see Section 2.3, "How to upgrade a 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2 and Oracle Portal 10.1.2" and Section 15.2.4, "How to migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1".
10.1.2.0.0	10.1.2.1	Do nothing. Existing connections will continue to work in 10.1.2.0.0. Oracle Applications users must enter a password. **Note:** To reduce the possibility of refresh failures, use Discoverer Portlet Provider Version 10.1.2.1.
10.1.2.0.0	10.1.2.0.0	Do nothing. Oracle Applications users must enter a password.
10.1.2.0.0	9.0.4	Upgrade the DISCOVERER5 schema in the Metadata Repository using upgradeMR script. For more information, see Section 2.3, "How to upgrade a 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2 and Oracle Portal 10.1.2". Oracle Applications users must enter a password.
9.0.4	10.1.2.1	Do nothing. Oracle Applications users must enter a password. **Note:** To reduce the possibility of refresh failures, use Discoverer Portlet Provider Version 10.1.2.1.
9.0.4	10.1.2.0.0	Do nothing. Oracle Applications users must enter a password.
9.0.4	9.0.4	Do nothing. Oracle Applications users must enter a password.

15.2.4 How to migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1

Before you can make Oracle Applications private connections (created in earlier versions of Discoverer) available in Discoverer Version 10.1.2.1, you must migrate all existing private connections by running the migratediscoconnection tool.

To migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1:

1. Navigate to the directory containing the migratediscoconnection tool on the middle tier machine (to find out the location of this file, see Section A.1, "List of Discoverer file locations").
2. Run the migratediscoconnection tool.

   For example, on Windows, double click the migratediscoconnection.bat file in Windows Explorer to run the migratediscoconnection tool.

   When you run the migratediscoconnection tool you will need to enter the Discoverer middle tier administrator username and password.

   If you do not know the Discoverer middle tier administrator username and password, ask the Application Server middle tier administrator.
3. Install Discoverer Version 10.1.2.1 (if not already installed).

   For more information about installing Discoverer Version 10.1.2.1, see the *Oracle Business Intelligence Installation Guide*.

15.3 About Discoverer preference settings for Oracle e-Business Suite

When you deploy Discoverer in an Oracle e-Business Suite environment, there are two preference settings that you can override in the pref.txt file:

- the AppsGWYUID preference specifies a Gateway User ID and Password (the default value is 'APPLSYSPUB/PUB')
- the AppsFNDNAM preference specifies a Foundation Name (the default value is 'APPS')

AppsGWYUID and AppsFNDNAM are specified in the pref.txt configuration file (for more information, see Section A.1, "List of Discoverer file locations").

Note: After editing the pref.txt file, you must run the applypreferences script to apply the preference changes you have made, then stop and restart the OracleBI Discoverer service (for more information, see Section 5.3, "About starting and stopping the Discoverer Service").

A

OracleBI Discoverer configuration files

This appendix provides reference information about Discoverer configuration files, and contains the following topics:

- Section A.1, "List of Discoverer file locations"
- Section A.2, "List of configuration settings in configuration.xml"
- Section A.3, "List of configuration settings in opmn.xml"

A.1 List of Discoverer file locations

This section lists the files that are used to configure and maintain OracleBI Discoverer. Many of the settings in the configuration files are configured using Application Server Control. Where possible, use Application Server Control to configure Discoverer. If you update settings in the configuration files manually, you must only do so in accordance with the instructions in this guide.

The table below shows the locations of these files on both UNIX and Windows platforms.

File name	Description and location
applypreferences.bat/.sh	This file updates the Discoverer Preferences component (Windows specific). On UNIX: <ORACLE_HOME>/discoverer/util/applypreferences.sh On Windows: <ORACLE_HOME>\discoverer\util\applypreferences.bat **Hint**: Information about processing errors are stored in error.txt (for more information, see File name entry for error.txt).
certdb.txt	This file contains the security certificate store for Oracle JInitiator, and is stored on each client machine that is running Discoverer Plus. On UNIX: <JINITIATOR HOME>/lib/security/certdb.txt On Windows: <JINITIATOR HOME>\lib\security\certdb.txt where <JINITIATOR HOME> is the location on the client machine in which JInitiator is installed (e.g. c:\program files\oracle\JInitiator 1.3.1.9\) For more information about installing a security certificate in the JInitiator certificate store, see Section 3.5.1, "How to install a security certificate on a Discoverer Plus client machine". For more information about certdb.txt, see Section 14.6.3.1, "About configuring Discoverer Plus for a non-standard SSL signing authority".

File name	Description and location
checkdiscoverer.bat/.sh	This file starts a utility that checks the configuration of the Discoverer middle tier, checks the status of the middle tier components, and reports any failures or anomalies. On UNIX: <ORACLE_HOME>/discoverer/util/checkdiscoverer.sh On Windows: <ORACLE_HOME>\discoverer\util\checkdiscoverer.bat **Note**: You can also find documentation on using the checkdiscoverer utility in the \util directory.
collectlogs.bat	This script file collects all Discoverer logs into a folder. On UNIX:<ORACLE_HOME>/discoverer/util/collectlogs.sh On Windows: <ORACLE_HOME>\discoverer\util\collectlogs.bat **Note**: For more information about using the collectlogs script, see Section D.2.9, "How to copy Discoverer log files".
configuration.xml	This file stores configuration settings for Discoverer. **Note**: Do not edit this file manually. Use the Discoverer Services Configuration page in Application Server Control to configure settings in this file (for more information, see Section A.2, "List of configuration settings in configuration.xml"). On UNIX: <ORACLE_HOME>/discoverer/config/configuration.xml On Windows: <ORACLE_HOME>\discoverer\config\configuration.xml
convertreg.pl	This script converts a reg_key.dc file to change the format of integer values (e.g. from BigEndian format to LittleEndian format). Use this script to migrate a Discoverer installation from one platform to another platform (e.g from Windows to Solaris). On UNIX: <ORACLE_HOME>/perl/bin/convertreg.pl On Windows: <ORACLE_HOME>\perl\bin\convertreg.pl For more information, see Section 10.8, "About migrating Discoverer preferences".
defaults.txt	This file stores factory-supplied default Discoverer preferences. If pref.txt becomes corrupted, you can use defaults.txt to restore default preference settings. On UNIX: <ORACLE_HOME>/discoverer/util/defaults.txt On Windows: <ORACLE_HOME>\discoverer\util\defaults.txt
dis51pr.exe/dis51pr	This file runs the command line utility used to manage preferences stored in the reg_key.dc file. On UNIX: <ORACLE_HOME>/bin/dis51pr On Windows: <ORACLE_HOME>\bin\dis51pr.exe
discwb.sh	This script file sets environment variables used by Discoverer EUL Command Line for Java. On UNIX: <ORACLE_HOME>/discoverer/discwb.sh On Windows: N/A
error.txt	This file contains information about processing errors collected when you update the Discoverer Preferences component using the applypreferences script. If error.txt is not present, no errors have been logged. On UNIX: <ORACLE_HOME>/discoverer/util/error.txt On Windows: <ORACLE_HOME>\discoverer\util\error.txt
httpd.conf	This file contains configuration information (e.g. the Web server timeout setting Timeout) about the Web server used by Oracle Business Intelligence. On UNIX: <ORACLE_HOME>/Apache/Apache/conf/httpd.conf On Windows: <ORACLE_HOME>\Apache\Apache\conf\httpd.conf

File name	Description and location
migratediscoconnection.bat/.sh	This script file is used to migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1. **Note:** For information on migrating Discoverer connections from earlier versions of Discoverer to Version 10.1.2.1, see Section 15.2.4, "How to migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1". On UNIX:<ORACLE_HOME>/discoverer/util On Windows:<ORACLE_HOME>\discoverer\util
migrateprefs.bat/.sh	This script file is used to migrate Discoverer preferences from Discoverer 9.0.4 to Discoverer 10.1.2. **Note**: For information on migrating Discoverer preferences from Discoverer 9.0.4 to Discoverer 10.1.2, see the OracleBI Discoverer section in the *Oracle Application Server Migration Guide*. On UNIX: <ORACLE_HOME>/discoverer/util/migrateprefs.sh On Windows: <ORACLE_HOME>\discoverer\util\migrateprefs.bat
mod_osso.conf	This file stores configuration settings for OracleAS Single Sign-On (e.g, settings to turn OracleAS Single Sign-On on and off). On UNIX: <ORACLE_HOME>/apache/apache/conf/mod_osso.conf On Windows: <ORACLE_HOME>\apache\apache\conf\mod_osso.conf For more information about enabling Single Sign-On, see Section 14.7.2.2, "How to enable and disable Single Sign-On for Discoverer".
opmn.xml	This file stores the OPMN configuration settings for Discoverer (e.g. server timeout, maximum number of Discoverer sessions). **Note**: Use Application Server Control to control the settings in this file. On UNIX: <ORACLE_HOME>/opmn/conf/opmn.xml On Windows: <ORACLE_HOME>\opmn\conf\opmn.xml For more information, see Section A.3, "List of configuration settings in opmn.xml".
opmnctl.bat/.sh	This script file is used to manage OPMN processes. On UNIX: <ORACLE_HOME>/opmn/bin/opmnctl.sh On Windows: <ORACLE_HOME>\opmn\bin\opmnctl.bat **Hint**: Type opmnctl help to display online help for this script.
pref.txt	This file stores the Discoverer middle tier preferences, and is used to generate the reg_key.dc file. On install, this file is populated using settings in the defaults.txt file. If pref.txt becomes corrupted, copy preferences in defaults.txt to pref.txt to restore default preference settings. On UNIX: <ORACLE_HOME>/discoverer/util/pref.txt On Windows: <ORACLE_HOME>\discoverer\util\pref.txt **Note**: After editing the pref.txt file, you must run the applypreferences script to apply the preference changes you have made, then stop and restart the Discoverer Service (for more information, see Section 5.3, "About starting and stopping the Discoverer Service").

File name	Description and location
reg_key.dc	This file stores individual preferences for each user as a unique combination of database and userid. These values override global default values specified in pref.txt. On UNIX: <ORACLE_HOME>/discoverer/.reg_key.dc On Windows: <ORACLE_HOME>\discoverer\reg_key.dc **Note**: On UNIX implementations, the reg_key.dc is a hidden UNIX file (i.e. the filename is prefixed with a '.'). Make sure that your file manager program or command console can list hidden files (e.g. use the console command 'ls -al' to list hidden files).
tnsnames.ora	This file contains the names and aliases of all the databases that users can access using OracleBI Discoverer. On UNIX: <ORACLE_HOME>/network/admin/tnsnames.ora On Windows: <ORACLE_HOME>\network\admin\tnsnames.ora
upgradeMR.bat/.sh	This file updates the Discoverer part of the MR to version 10.1.2. If you want to use OracleBI Discoverer Portlet Provider 10.1.2. with OracleAS Portal 9.0.4, you must upgrade only the OracleBI Discoverer part of the 9.0.4 OracleAS Metadata Repository (MR) using the upgradeMR script. For more information, see *Oracle Business Intelligence Discoverer Publishing Workbooks in Oracle Application Server Portal*. On UNIX: <ORACLE_HOME>/discoverer/util/upgradeMR.sh On Windows: <ORACLE_HOME>\discoverer\util\upgradeMR.bat
web.xml	This file contains deployment information about the Discoverer servlets. On UNIX: <ORACLE_HOME>/j2ee/OC4J_BI_Forms/applications/discoverer/discoverer/WEB-INF/web.xml On Windows: <ORACLE_HOME>\j2ee\OC4J_BI_Forms\applications\discoverer\discoverer\WEB-INF\web.xml

A.2 List of configuration settings in configuration.xml

This file stores configuration settings for Discoverer. The table below shows the settings in configuration.xml.

Note: Do not edit this file manually unless you are following instructions in this guide. You typically use the Discoverer Services Configuration page in Application Server Control to configure settings in this file.

To change the Discoverer Portlet Provider settings, use the Discoverer Portlet Provider Configuration page in Oracle Application Server Control (for more information, see Section 5.6.1, "How to change configuration options for individual Discoverer client tier components").

Setting	Description
enableAppsSSO	Specifies whether authenticated OracleAS Single Sign-On users using an SSO-enabled Oracle Applications database can create and use Discoverer private connections without entering a password (for more information, see Section 15.2.2, "How to enable Oracle Applications users to create or use private connections to SSO-enabled Oracle Applications databases"). **Note**: You set the value using the **Allow authenticated OracleAS Single Sign-On (SSO) users to create and use private connections to SSO-enabled Oracle Applications databases, without entering a password** check box on the Discoverer Configuration page in Oracle Application Server Control.

Setting	Description
/disco:configuration/plus/@jvm	Specifies the Java Virtual Machine to use for Discoverer Plus (for more information, see Section 5.9.2, "How to specify your own Java Virtual Machine for Discoverer Plus").
/disco:configuration/plus/@laf	Specifies the Look and Feel to use for Discoverer Plus (for more information, see Section 9.1.4, "How to define a custom LAF for Discoverer Plus Relational and Discoverer Plus OLAP").
/disco:configuration/portlet/sessionPool/@maxDataRows	Specifies the number of rows that Discoverer Portlet Provider caches for each Discoverer portlet (default is 1000). You might change this value to increase or decrease the amount of memory used by Discoverer Portlet Provider. For example, you might increase this value to improve the performance of Discoverer portlets with a large number of rows, although Discoverer Portlet Provider might use more system resources (e.g. memory, storage space).
/disco:configuration/portlet/sessionPool/@maxGenericParameters	Specifies the maximum number of generic Portlet parameters associated with Discoverer Portlets.
/disco:configuration/portlet/sessionPool/@maxNewSessionPerMinute	Specifies the maximum number of sessions created per minute.
/disco:configuration/portlet/sessionPool/@maxSessionAgeHour	Specifies the maximum amount of time (in hours) that a Discoverer Session is allowed to be in the session pool. When this limit expires, Discoverer removes this session from the pool. The default value for this parameter is 1 hour. Setting this parameter to a lower value will recycle sessions faster, but might slow down the refreshes due to the need to restart sessions. **Note**: You set the value using the **Maximum Session Age** field on the Discoverer Portlet Provider Configuration page in Oracle Application Server Control.
/disco:configuration/portlet/sessionPool/@maxSessionInactivityPeriodMinute	Specifies the maximum amount of time (in minutes) that a Discoverer Session is allowed to be inactive in the session pool. When this limit expires, Discoverer removes this session from the pool. For example, if you have a session in the pool which is continuously used and is never inactive for more than the maxSessionInactivityPeriodMinute limit, Discoverer removes this session from the pool only when the maxSessionAgeHour is reached. However, if the pool has a session that is not being used continuously, Discoverer removes this session from the pool when the maxSessionInactivityPeriodMinute is reached. **Note**: You set the value using the **Maximum Session Inactivity** field on the Discoverer Portlet Provider Configuration page in Oracle Application Server Control.
/disco:configuration/portlet/sessionPool/@maxSessions	Specifies the number of sessions that Discoverer Portlet Provider uses for portlet refreshes and portlet publishing. **Note**: You set this value using the **Maximum Sessions** field on the Discoverer Portlet Provider Configuration page in Oracle Application Server Control (for more information, see Section 5.6.1, "How to change configuration options for individual Discoverer client tier components"). **Note**: This value must be equal to or less than the value of the maxprocs setting in opmn.xml (for more information, see Section A.3, "List of configuration settings in opmn.xml").
/disco:configuration/portlet/sessionPool/@minRequestThreadPoolSize	Specifies the minimum size of thread pool used to handle user requests. If the number of users accessing the system increases by the set value, the number of user handling threads increases accordingly.
/disco:configuration/portlet/sessionPool/@peekSleepIntervalSec	Specifies the sleep interval to retrieve portlets to be refreshed. When more than one Discoverer Portlet Provider instance is deployed, this value helps to distribute the refreshes over the portlet provider instances.

Setting	Description
/disco:configuration/portlet/sessionPool/@maxWaitNewSessionMinute	Specifies the maximum number of re-tries for creating a session before aborting. **Note**: You set the value using the **Maximum Wait Time** field on the Discoverer Portlet Provider Configuration page in Oracle Application Server Control.
/disco:configuration/viewer/switchWorksheetBehavior	Specifies the Discoverer Viewer behavior if an end user opens a different worksheet when they have made changes to the current worksheet. Valid values are: ■ always_save When switching worksheets within a workbook, save changes to the worksheet (i.e save the whole workbook) without prompting the end user to confirm. ■ never_save When switching worksheets within a workbook, discard changes to the worksheet without prompting the end user to confirm. ■ prompt When switching worksheets within a workbook, prompt the user to select either save, cancel, or discard changes to the worksheet. **Note**: If this setting is not present in the file, Discoverer defaults to 'prompt'.

A.3 List of configuration settings in opmn.xml

This file stores OPMN settings for Discoverer. The table below shows the setting in opmn.xml that you might change if you need to modify the default Discoverer configuration:

Setting	Description
FND_SECURE	Specifies the directory containing a DBC file that Discoverer uses to connect to an Oracle Applications database in secure mode. Discoverer first attempts to find a DBC file with the filename <database name>.dbc. If not found, Discoverer then attempts to use a file with the filename <host name>_<SID>.dbc. If this value is not set, Discoverer attempts to use the value specified by FND_TOP.
FND_TOP	Specifies the directory path for the secure directory containing a DBC file that Discoverer uses to connect to an Oracle Applications database in secure mode (i.e. $<FND_TOP>/secure). This variable is included for backwards compatibility. Discoverer first attempts to use the value specified by FND_SECURE.
ORBDebug	Specifies whether Discoverer instructs the ORB to print debugging messages from the server configurator network. This option does not have a value, but is used as a toggle to enable or disable debugging messages.
ORBDebugLevel=<*level*>	Specifies the level of debugging in the ORB. The range is 1 for the minimum amount of debugging information to 10 for the maximum amount of debugging information.

Setting	Description
ORBLogFile=<*name of log file*>	Specifies that all ACE_DEBUG and ACE_ERROR messages are redirected to the file specified. If you do not specify a path, the file is created in the directory in which the server is running (e.g. $ORACLE_HOME).
ORBObjRefStyle=[IOE|URL]	Specifies the user-visible style of object references. The IOR style (default) is the conventional CORBA object reference, whereas the URL style looks more like a URL.
ORBVerboseLogginglevel=[0|1|2]	Specifies the amount of status data printed on each line of the debug log. Higher numbers generate more output.
process-type id="PreferenceServer"	Specifies whether the preferences will be started by OPMN. This setting is useful in clustered environments where only one Preferences server should be running. The default value for this setting is: <process-type id="PreferenceServer" enabled="true">.
process-type id="SessionServer" module-id="Disco_SessionServer" maxprocs=<value>	Specifies the maximum number of Discoverer sessions (default 50) that can run at the same time (for Discoverer Plus, Discoverer Viewer, and Discoverer Portlet Provider). You might increase this value if you need to support more concurrent Discoverer users. The value must be a positive integer. **Note**: This value must be equal to or greater than the value of the /portlet/sessionPool/@maxSessions setting in configuration.xml (for more information, see Section A.2, "List of configuration settings in configuration.xml").
process-type id="SessionServer" module-id="Disco_SessionServer" timeout=<value>	Specifies the length of time (in seconds) that the servlet waits for the Discoverer server process to respond value must be a positive integer. You might need to increase this value if the machine is heavily loaded and is unable to start the server in the default time allowed (i.e. 30 seconds).
module_data\ssl_enabled	Specifies that SSL is enabled.
variable id="TEMP"	Specifies the location of a temporary file called dc* that Discoverer stores on the OracleBI middle tier during a worksheet export. The default location is specified during OracleBI installation. If you want to change the location of the temporary file, change the value of this variable. For example, you might change the value from d:\temp to g:\temp.

Note: The ORB element is not included by default. If you want to customize the TAO ORB, add the ORB elements and attributes as described in the table above. For more information, refer to TAO documentation.

B

Upgrading from earlier versions of Discoverer

This section describes how to upgrade from earlier versions of Discoverer, and contains the following topics:

This section should be read in conjunction with Chapter 24 of the *Oracle Business Intelligence Discoverer Administration Guide*.

B.1 About using the OracleAS Upgrade Assistant

The OracleAS Upgrade Assistant upgrades an Oracle Business Intelligence middle tier from Discoverer Version 9.0.2. or 9.0.4. to Discoverer Version 10.1.2.1 (BI and Forms type installation). For more information, see Section B.4, "About upgrading from Discoverer Version 9.0.4/9.0.2".

The OracleAS Upgrade Assistant does not upgrade from Oracle Business Intelligence Version 10.1.2.0.0 or from OracleAS Version 1.0.2.2 (Discoverer 4*i*). You must manually upgrade the Discoverer middle tier (for more information, see Section B.5, "How to upgrade from Oracle Business Intelligence Version 10.1.2.0.0" and Section B.7, "How to upgrade from Discoverer Release 4.1").

B.2 Upgrade summary

The table below summarizes the upgrade steps required from different Discoverer versions and types of installation.

Table B–1 Discoverer Version 10.1.2.1 upgrade summary

Upgrade From	Upgrade To	Summary steps
Oracle Business Intelligence Version 10.1.2.0.0 standalone type installation	Oracle Business Intelligence Version 10.1.2.1 (standalone type installation or OracleAS Business Intelligence and Forms type installation)	Manually copy preferences to the new installation. Manually re-do customizations in Oracle Application Server Control. For more background information, see Section B.3, "About upgrading from Oracle Business Intelligence Version 10.1.2.0.0". For more information, see Section B.5, "How to upgrade from Oracle Business Intelligence Version 10.1.2.0.0".
Discoverer Version 9.0.4 or 9.0.2 (Business Intelligence and Forms)	Discoverer Version 10.1.2.1 Business Intelligence and Forms type installation	Use the OracleAS Upgrade Assistant to upgrade the Discoverer settings. Use Discoverer Administrator to upgrade the End User Layer. For background information, see Section B.4, "About upgrading from Discoverer Version 9.0.4/9.0.2". For detailed upgrade steps, see Section B.6, "How to upgrade from Discoverer Version 9.0.2/9.0.4".
Discoverer Version 9.0.4 or 9.0.2 (Business Intelligence and Forms)	Discoverer Version 10.1.2.1 standalone type installation	NOT SUPPORTED
Discoverer Version 4.1 (OracleAS Release 1.0.2.2)	Discoverer Version 10.1.2.1 Business Intelligence and Forms type installation	Manually upgrade the Discoverer settings. Use Discoverer Administrator to upgrade the End User Layer. For more information, see Section B.7, "How to upgrade from Discoverer Release 4.1".
Discoverer Version 4.1 (OracleAS Release 1.0.2.2)	Discoverer Version 10.1.2.1 standalone type installation	NOT SUPPORTED

B.3 About upgrading from Oracle Business Intelligence Version 10.1.2.0.0

When you upgrade from Discoverer Version 10.1.2.0.0 to Discoverer Version 10.1.2.1, you can upgrade to one of the following installation types:

- a standalone OracleBI Discoverer 10.1.2.1 installation

  If the Discoverer Version 10.1.2.0.0 standalone type installation is associated with an OracleAS Infrastructure, you might want to associate the Discoverer Version 10.1.2.1 standalone type installation with the same Infrastructure.

- an OracleAS Business Intelligence and Forms 10.1.2.1 installation of Discoverer

For detailed upgrade steps, see Section B.5, "How to upgrade from Oracle Business Intelligence Version 10.1.2.0.0".

B.4 About upgrading from Discoverer Version 9.0.4/9.0.2

You can upgrade from an OracleAS Business Intelligence and Forms 9.0.4/9.0.2 installation to an OracleAS Business Intelligence and Forms 10.1.2.1 installation of Discoverer.

For detailed upgrade steps, see Section B.6, "How to upgrade from Discoverer Version 9.0.2/9.0.4".

Notes

If you want to continue using Discoverer portlets created with OracleAS Portal 9.0.4, you must do one of the following.

- if you want to upgrade just the Discoverer portlets but not OracleAS Portal, use the upgradeMR script (for more information, see Section 2.3, "How to upgrade a 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2 and Oracle Portal 10.1.2")
- if you want to upgrade both the Discoverer portlets and OracleAS Portal to version 10.1.2, use the Metadata Repository Upgrade Assistant, (for more information, see *Oracle Application Server Upgrade and Compatibility Guide*).

B.5 How to upgrade from Oracle Business Intelligence Version 10.1.2.0.0

To can upgrade from Discoverer Version 10.1.2.0.0 to Discoverer Version 10.1.2.1, do the following:

1. Install Oracle Business Intelligence Version 10.1.2.1 into a new Oracle home directory.
2. Use Oracle Application Server Control to re-do any customizations that you had in the earlier version of Discoverer. For example, you might have changed the look and feel (LAF) for Discoverer Plus Relational or the logo in Discoverer Viewer. For more information about customizing Discoverer, see Chapter 9, "Customizing OracleBI Discoverer".

   Note: Discoverer only supports customizations made using the Discoverer customization pages in Oracle Application Server Control.
3. Upgrade the preferences (for more information, see Section B.5.1, "Upgrading preferences from Oracle Business Intelligence Version 10.1.2.0.0 to Version 10.1.2.1").
4. If you are upgrading from a standalone OracleBI Discoverer 10.1.2.0.0 installation associated with an OracleAS Infrastructure to a standalone OracleBI Discoverer 10.1.2.1, you must manually associate the standalone OracleBI Discoverer 10.1.2.1 installation with the same Infrastructure.

   For more information about associating an OracleAS Infrastructure, see Section 2.2, "How to associate an OracleBI installation with an OracleAS Infrastructure".
5. If you want to continue using Discoverer portlets created with OracleAS Portal 9.0.4, do one of the following:
   - if you want to upgrade just the Discoverer portlets but not OracleAS Portal 10.1.2, use the upgradeMR script (for more information, see Section 2.3, "How to upgrade a 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2 and Oracle Portal 10.1.2")

- if you want to upgrade both the Discoverer portlets and OracleAS Portal, use the Metadata Repository Upgrade Assistant (MRUA). For more information, see *Oracle Application Server Upgrade and Compatibility Guide*.

Notes

- An EUL upgrade is not required between Discoverer Versions 10.1.2.0.0 and 10.1.2.1.
- Before you begin the upgrade process, we recommend that you confirm that the OracleBI installation was successful (for more information, see Section 1.4, "How to confirm an OracleBI Discoverer installation").
- The instructions in this section assume the following:
  - Discoverer Version 10.1.2.0.0 is installed into <ORACLE_HOME_1>
  - Discoverer Version 10.1.2.1 is installed into <ORACLE_HOME_2>

B.5.1 Upgrading preferences from Oracle Business Intelligence Version 10.1.2.0.0 to Version 10.1.2.1

This section explains how to upgrade Oracle Business Intelligence preferences, which are stored in the pref.txt file and reg_key.dc file.

To upgrade preferences, follow the steps below:

1. Since the 10.1.2.0.0 and 10.1.2.1 preferences are compatible, you copy the pref.txt and .reg_key.dc file from your 10.1.2.0.0 Oracle home to your 10.1.2.1 Oracle Home, as follows:
   - on UNIX, copy <ORACLE_HOME_1>/discoverer/util/pref.txt to <ORACLE_HOME_2>/discoverer/util/pref.txt and copy <ORACLE_HOME_1>/discoverer/.reg_key.dc to <ORACLE_HOME_2>/discoverer/.reg_key.dc
   - on Windows, copy <ORACLE_HOME_1>\discoverer\util\pref.txt to <ORACLE_HOME_2>\discoverer\util\pref.txt and copy <ORACLE_HOME_1>\discoverer\.reg_key.dc to <ORACLE_HOME_2>\discoverer\.reg_key.dc

B.6 How to upgrade from Discoverer Version 9.0.2/9.0.4

This section explains how to upgrade from an OracleAS Business Intelligence and Forms 9.0.2. or 9.0.4 installation to an OracleAS BI and Forms 10.1.2.1 type installation of Discoverer.

Note: Upgrading from Discoverer Version 9.0.2. or 9.0.4 to a Discoverer Version 10.1.2.1 standalone type installation is not supported.

To upgrade from Oracle Application Server 10*g* (9.0.2/9.0.4) to OracleBI Version 10.1.2.1, do the following:

1. Use OracleBI Discoverer Administrator version 10.1.2. to upgrade the End User Layer (EUL) to Version 5.1.

   For more information, see *Oracle Business Intelligence Discoverer Administration Guide*.

2. Install Oracle Business Intelligence Version 10.1.2.1 into a new Oracle Home directory.

3. Use OracleAS Upgrade Assistant to upgrade the Discoverer middle tier to the new version (for more information, see *Oracle Application Server Upgrade and Compatibility Guide*).

   OracleAS Upgrade Assistant upgrades Discoverer registry settings, configuration settings, preferences, and registry settings.

4. If you want to continue using Discoverer portlets created with OracleAS Portal 9.0.4, upgrade one of the following:
   - if you want to upgrade the Discoverer portlets but not OracleAS Portal, use the upgradeMR script (for more information, see Section 2.3, "How to upgrade a 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2 and Oracle Portal 10.1.2")
   - if you want to upgrade the Discoverer portlets and OracleAS Portal, use the Metadata Repository Upgrade Assistant (MRUA), (for more information, see *Oracle Application Server Upgrade and Compatibility Guide*)

Notes

- Before you begin the upgrade process, we recommend that you confirm that the OracleBI installation was successful (for more information, see Section 1.4, "How to confirm an OracleBI Discoverer installation").

B.7 How to upgrade from Discoverer Release 4.1

To upgrade from OracleAS Release 1 (1.0.2.2) to OracleBI Version 10.1.2.1, do the following:

1. Use OracleBI Discoverer Administrator version 10.1.2.1 to upgrade the End User Layer (EUL) to Version 5.1.

   For more information, see *Oracle Business Intelligence Discoverer Administration Guide*.

2. Install Oracle Business Intelligence Version 10.1.2.1 into a new Oracle home directory.

3. Use Oracle Application Server Control to re-do any customizations that you had in the earlier version of Discoverer. For example, you might have changed the look and feel (LAF) for Discoverer Plus Relational or the logo in Discoverer Viewer. For more information about customizing Discoverer, see Section 9, "Customizing OracleBI Discoverer"

   Note: Discoverer only supports customizations made using the Discoverer customization pages in Oracle Application Server Control.

4. Upgrade the preferences (for more information, see Section B.7.1, "Upgrading preferences").

5. Update the Discoverer URLs (for more information, see Section B.7.2, "Updating URL references").

Notes

- Before you begin the upgrade process, we recommend that you confirm that the OracleBI installation was successful (for more information, see Section 1.4, "How to confirm an OracleBI Discoverer installation").
- The instructions in this section assume the following:
  - OracleAS Release 1 (1.0.2.2) is installed into <ORACLE_HOME_1>

- OracleBI Release 10.1.2.1 is installed into <ORACLE_HOME_2>

B.7.1 Upgrading preferences

This section explains how to upgrade Discoverer preferences from a Discoverer 4.1 Oracle Home to an Oracle Business Intelligence Discoverer 10.1.2 Oracle Home.

Notes

- The instructions in this section assume the following:
  - Discoverer Version 10.1.2.0.0 is installed into <ORACLE_HOME_1>
  - Discoverer Version 10.1.2.1 is installed into <ORACLE_HOME_2>

B.7.1.1 How to upgrade preferences from Discoverer Release 4.1 to Discoverer Version 10.1.2 on UNIX

Follow the instructions below to upgrade preferences from Discoverer Release 4.1 Oracle Home to Discoverer Version 10.1.2 Oracle Home:

1. Make backup copies of both your 4.1 .reg_key.dc file and your 10.1.2 .reg_key.dc file.
2. Copy the Discoverer 4.1 .reg_key.dc file (from the location specified by the DC_REG environment variable) to the location specified for the .reg_key.dc file in Section A.1, "List of Discoverer file locations" in your 10.1.2 Oracle Home.

   You will be copying the 4.1 .reg_key.dc file over the default 10.1.2 .reg_key.dc file.

   Hint: To find out the location of the .reg_key.dc file in Discoverer Release 4.1, look in the discwb.sh file in ORACLE_HOME/<installation>/discwb4.
3. Type the following at a command prompt:.

   ```
   > <ORACLE_HOME_2>/discoverer/util/dis51pr -migrate -from 102
   ```

   Although you have now migrated your preferences from 4.1 to 10.1.2, your 10.1.2 pref.txt file will likely be out of sync with your 10.1.2 .reg_key.dc file. You should not run applypreferences.sh since it will reset all the preferences in pref.txt in your .reg_key.dc file to the default values. To change preference values, use dis51pr -setpref as documented in section 10.6 How to set individual preferences.

B.7.1.2 How to upgrade preferences from Discoverer Release 4.1 to Discoverer Version 10.1.2 on Microsoft Windows

If you are upgrading from one Oracle Home to another on the same computer running Microsoft Windows, follow the instructions below to upgrade user level preferences from Discoverer Release 4.1 to Discoverer Version 10.1.2.1:

1. Type the following at a command prompt:

   ```
   > <ORACLE_HOME_2>\discoverer\util\dis51pr.exe -migrate -from 102
   ```

   This command copies all preferences from the Windows registry to a file called .reg_key.dc in your 10.1.2 Oracle Home.

If you are upgrading from one computer to another computer running Windows, follow the instructions below to upgrade user level preferences from Discoverer Release 4.1 to Discoverer Version 10.1.2.1:

1. On the machine where Discoverer Release 4.1 is installed:

   a. From the Windows Start menu, select Run.
   b. In the Run window, type regedit and press [Enter].
   c. In the Registry Editor, open the HKEY_LOCAL_MACHINE\Software\Oracle\WebDisco4 registry key.
   d. Choose Registry | Export Registry File to export the registry key to a file.
   e. Specify a name for the registry export file (e.g. disco41prefs.reg).
2. Copy the registry export file from the machine where Discoverer Release 4.1 is installed to the machine where Discoverer Version 10.1.2.1 is installed.
3. On the machine where Discoverer Version 10.1.2.1 is installed:
   a. From the Windows Start menu, select Run.
   b. In the Run window, type regedit and press [Enter].
   c. In the Registry Editor, Registry | Import Registry File.
   d. Specify the name of the registry export file to import (e.g. disco41prefs.reg).
4. Upgrade the preferences by typing the following at a command prompt:

```
> <ORACLE_HOME_2>\discoverer\util\dis51pr.exe -migrate -from 102
```

   Note: Although you have now migrated your preferences from 4.1 to 10.1.2.1, your 10.1.2 pref.txt file will probably be out of sync with your 10.1.2.1 .reg_key.dc file. You should not run applypreferences.bat since it will reset all the preferences in pref.txt in your .reg_key.dc file to the default values. To change preference values, use dis51pr -setpref as documented in section 10.6 How to set individual preferences.

B.7.2 Updating URL references

Discoverer Viewer and Discoverer Plus URL references have changed between Discoverer Release 4.1 and Discoverer Version 10.1.2.1. These changes include (but are not limited to) links within the Web site and client bookmarks. You must manually replace all occurrences of old URLs with the new URLs, using the table below as a guide:

For example, if Discoverer end users have a link to http://hostname/Discwb4/html/english/ms_ie/start_ie.htm in their browser Favorites, they must change their Favorites entry to http://hostname/discoverer/plus.

Table B–2 Updating Discoverer URL references

Release 4.1 URL	Version 10.1.2.1 URL

`http://hostname/Discwb4/html/english/ms_ie/start_ie.htm`
or
`http://hostname/Discwb4/html/english/netscape/start_nn.htm`
	`http://hostname/discoverer/plus`

`http://hostname/Discoverer4i/Viewer`	`http://hostname/discoverer/viewer`

C

OracleBI Discoverer administrative account information

This section lists Discoverer administrative account information, and contains the following topics:

- Section C.1, "Database privileges granted by OracleBI Discoverer scripts to the PUBLIC user"
- Section C.2, "Database privileges granted by OracleBI Discoverer scripts to the Discoverer manager"

Note: For information about Discoverer accounts and schemas, see *Oracle Application Server Administrator's Guide*.

C.1 Database privileges granted by OracleBI Discoverer scripts to the PUBLIC user

The table below shows the database privileges granted by OracleBI Discoverer scripts to the PUBLIC user.

Script name(s)	Script description	Privileges granted
batchusr.sql	Sets up the scheduling schema (granted with INVOKER rights)	EXECUTE on EUL5_BATCH_REPOSITORY
demoddl.sql	Sets up the Video Stores Tutorial data	SELECT on all tables in VIDEO5 schema
eulsuqpp.sql	Run QPP statistics on secure views	SELECT on v_$session, v_$sesstat, v_$parameter, v_$sql, v_$open_cursor

Script name(s)	Script description	Privileges granted
eulgfn.sql, lineage.sql, eul5.sql	Sets up PL/SQL packages	EXECUTE on EUL5_GET_COMPLEX_FOLDER EXECUTE on EUL5_GET_SIMPLE_FOLDER EXECUTE on EUL5_GET_OBJECT EXECUTE on EUL5_GET_ITEM EXECUTE on EUL5_GET_HIERORD EXECUTE on EUL5_GET_HIERLVL EXECUTE on EUL5_GET_ADATE EXECUTE on EUL5_GET_ANALYZED EXECUTE on EUL5_GET_OBJECT_NAME EXECUTE on EUL5_GET_ITEM_NAME EXECUTE on EUL5_GET_APPS_USERRESP EXECUTE on EUL5_GET_ISITAPPS_EUL EXECUTE on EUL5_GET_LINURL

C.2 Database privileges granted by OracleBI Discoverer scripts to the Discoverer manager

The table below shows the database privileges granted by OracleBI Discoverer scripts to EUL owners.

Package name(s)	Package description	Privileges granted
EUL5_DROP_BATCH_TABLE	Grant execute to Discoverer managers. Batch repository package for dropping tables as part of batch user management. (granted with GRANT rights)	With GRANT rights.

D

Troubleshooting Discoverer

This appendix describes common problems that you might encounter when using Discoverer and explains how to solve them. It contains the following topics:

- Section D.1, "Problems and Solutions"
- Section D.2, "About Discoverer diagnostics and logging"

Note: For information on troubleshooting Discoverer performance and scalability, see Section 12.3.13, "Troubleshooting Discoverer performance and scalability".

D.1 Problems and Solutions

This section describes common problems and solutions. It contains the following topics:

- Section D.1.1, "Discoverer Viewer reports errors when exporting using Microsoft Internet Explorer v6.0"
- Section D.1.2, "Discoverer and Oracle Applications certification"
- Section D.1.3, "Discoverer reports a network error"
- Section D.1.4, "Discoverer reports the error ORA-12154"
- Section D.1.5, "Pop-up stopper issues"
- Section D.1.6, "Netscape Navigator 4.x issues"
- Section D.1.7, "Discoverer Plus reports RMI error"
- Section D.1.8, "Discoverer memory issues"
- Section D.1.9, "Discoverer Plus Relational help issues"
- Section D.1.10, "Configuring a SMTP Server for Discoverer Viewer"
- Section D.1.11, "Problem With Microsoft Internet Explorer, HTTP 1.1 Protocol and Compressed Data"
- Section D.1.12, "Error: Could Not Open Web Cache Connection (WWC-40019)"
- Section D.1.13, "Opening an exported Web Query file in Microsoft Excel containing non-ASCII dynamic parameter values"
- Section D.1.14, "List of values (LOV) is too long for a Discoverer portlet URL"
- Section D.1.15, "Specifying a parameter by index value in Microsoft Excel does not work for Web Query file"
- Section D.1.16, "Redirect conflicts with Single Sign-On (SSO) and Secure Sockets Layer (SSL)"

D.1.1 Discoverer Viewer reports errors when exporting using Microsoft Internet Explorer v6.0

When Discoverer Viewer users export data using Microsoft Internet Explorer v6.0, a bug in Microsoft Internet Explorer can lead to a number of errors being reported.

Note: Discoverer supports data exported Microsoft Excel 97 or later.

Problem 1

Microsoft Internet Explorer v6.0 is not configured correctly and displays an error message, for example:

- Internet Explorer was not able to open this Internet Site. The requested site is either unavailable or is not found. Please try again later.

  The error messages vary depending upon the application or mime type configured to open the extensions.

For example, if SSL is enabled in addition to SSO then you may receive an error such as:

- Could not open 'https://:/discoverer/viewer/. For details see c:\path to temp directory \wecerr.txt

Clicking OK then gives the following error in Excel 'Microsoft Excel cannot access the file 'https://:/discoverer/viewer'. There are several possible reasons:

- The file name or path does not exist.
- The file being opened is being used by another program. Close the document in the other program, and try again.
- The name of the workbook that you are trying to save is the same as another document that is read-only. Try saving the document under another name.

This category of error is caused by an Internet Explorer bug, in which certain configurations involving a ReverseProxy such as OracleAS Web Cache cause a problem during a redirected request (302). The Internet Explorer Host header contains the host header of the server you were redirected from rather than the host you were redirected to.

Solution

To resolve this problem, do the following:

1. On the middle-tier, open the mod_osso.conf file in a text editor (for more information about the location of the mod_osso.conf file, see Section A.1, "List of Discoverer file locations").
2. Replace any existing Discoverer Viewer URL protection with the following text:

Header unset Pragma

OssoSendCacheHeaders off

require valid-user

AuthType Basic

3. Save the mod_osso.conf file.
4. Restart the Oracle HTTP Server.

Problem 2

Microsoft Internet Explorer v6.0 displays an error message when Discoverer exports to Microsoft Excel format.

Solution

Specify the Discoverer middle tier as a trusted site in Microsoft Internet Explorer, by doing the following:

1. Select Tools | Internet Options from the Microsoft Internet Explorer menu bar to display the Internet Options dialog.
2. Display the Security tab.
3. Select the Trusted Sites icon and click the Sites button to display the Trusted sites dialog.
4. Enter the URL of the Discoverer middle tier in the format:

   http://*<host.domain>*:*<port>*

   where:

   - *<host.domain>* is the server name and domain on which the Oracle HTTP Server is installed
   - *<port>* is the port number (typically 7777 or 7778) on which Discoverer is installed

D.1.2 Discoverer and Oracle Applications certification

This section explains Discoverer's supported patch installation strategy and Oracle Applications certification strategy.

Problem

Oracle periodically certifies the Oracle E-Business Suite 11*i* (e.g. Applications 11*i*) with a specific patch-set or release versions of OracleBI Discoverer (e.g. 4.1.46). This certification means that the version of Discoverer has been tested by Oracle Applications product teams against the workbooks and EULs that ship with their Oracle Applications modules (for example, Financials Intelligence). Hence, a customer using an Oracle Applications 11*i* module that ships Discoverer content is now free to upgrade to the announced certified version and can typically install it in the ORACLE_HOMEs of existing application tier server nodes of Oracle Applications 11*i* environments.

Oracle Applications 11*i* is certified against Discoverer 4*i*, Discoverer Version 9.0.4, and Discoverer Version 10.1.2.0.0, so that Discoverer content can be seamlessly integrated with the rest of the Oracle Applications suite. Oracle Applications will continue to certify Discoverer patch-sets applicable to these releases.

Independent of this Oracle Applications certification process, OracleBI Discoverer supports creation of custom workbooks and EULs against an Oracle Applications instance as a fully supported stand alone feature. This means that irrespective of whether or not a given Discoverer patch-set or release has been Oracle Applications-certified, a customer is free to use any production release of Discoverer against their Oracle Applications instance to create custom workbooks and EULs through stand alone use of Discoverer (i.e. usage of Discoverer outside of an Oracle Applications module that utilizes Discoverer, such as Financials Intelligence). For example, a customer is supported to use Discoverer 10g (9.0.4) or Discoverer 10.1.2 against Oracle Applications 11*i* to develop their own custom workbooks and EUL in support of an enterprise wide Business Intelligence solution even though this release has not been Oracle Applications-certified. Note that in this case, Discoverer must be installed outside of the middle-tier Oracle Homes provided with the Oracle Applications install. For more information, see *Oracle Business Intelligence Discoverer Administration Guide*.

Can an uncertified version of Discoverer be used with Release 11*i*? In general, system administrators are advised to install only Oracle Applications-certified Discoverer versions and patches in their Oracle E-Business Suite Release 11*i* environments using the standard Oracle Applications 11*i* workbooks and End User Layer content (for more information, see Oracle Metalink, which is the authoritative source for all certifications between Oracle products).

There may be circumstances that make the installation of uncertified Discoverer patches necessary. Consult Oracle Support for guidance based upon your specific circumstances.

Certification of Discoverer versions and patches with Oracle E-Business Suite Release 11*i* involves a coordinated testing effort across all Release 11*i* products that use Discoverer. Certifications are generally performed for production releases for Discoverer. Oracle does not generally certify small, individual emergency patches such as Discoverer 4.1.42.05 or 4.1.42.08 against Oracle E-Business Release 11*i*. Oracle's Discoverer support policy is to respond to bugs filed against both certified production patch releases as well as emergency patches.

Solution

Customers are advised to follow controlled configuration management strategies when working with uncertified emergency patches. In particular, do the following:

- Always back up a known working environment before applying patches.
- Always back up a known working environment at the certified patch level.
- Always test patches thoroughly before applying them to production environments.
- Only apply uncertified, emergency patches if is unfeasible to wait until the next production patch release is certified.

D.1.3 Discoverer reports a network error

OracleBI Discoverer reports a network exception during login.

Problem

One possible cause is that OracleBI Discoverer cannot start.

Solution

Check that the Preferences component is up and running. To confirm that the Preferences component is up and running, use the Windows Task Manager and make sure that the Discoverer preferences command line utility dis51pr is running.

Hint: You can use the checkdiscoverer utility to verify a Discoverer configuration and report on failures or anomalies (for more information about the checkdiscoverer utility, see Section D.2.2, "What is the checkdiscoverer utility?").

D.1.4 Discoverer reports the error ORA-12154

OracleBI Discoverer reports error ORA-12154: Could not resolve service name.

Problem

OracleBI Discoverer cannot connect to the database alias specified by the connection details.

Solution

Make sure that:

- the database alias is in the tnsnames.ora file on the middle tier
- the database alias exists in the tnsnames.ora file on every machine that runs sessions

Hint: If you have SQL*Plus (or any other Oracle product) running on that machine, try connecting to the database with that product.

D.1.5 Pop-up stopper issues

OracleBI Discoverer does not start.

Problem

OracleBI Discoverer does not work on an Internet browser with a pop-up stopper activated.

Solution

De-activate all pop-up stoppers on the client browser machine.

D.1.6 Netscape Navigator 4.x issues

OracleBI Discoverer does not start when using Netscape Navigator 4.x as a client browser.

Problem

The following are known issues when using Discoverer with Netscape 4.x:

- it is not possible to filter the workbook list using non-ASCII characters when using Discoverer Viewer with Netscape 4.x
- it is not possible to use non-ASCII parameters when using Discoverer Viewer with Netscape 4.x
- it is not possible to create private connections using non-ASCII characters when using Discoverer with Netscape 4.x
- browser window re-sizing is disabled when using Discoverer Plus with Netscape 4.x

Solution

Use a later version of Netscape Navigator.

D.1.7 Discoverer Plus reports RMI error

A Discoverer Plus end user attempts to start Discoverer Plus over HTTP instead of HTTPS in a HTTPS environment.

Problem

Discoverer displays the following error message when an end user attempts to start Discoverer Plus using a HTTP URL:

Unable to connect to Oracle Discoverer Application Server. Attempt 1. RMI protocol over HTTPS transport: no response from web server at <url>.

Solution

Ensure that Discoverer end users use a HTTPS URL in a HTTPS environment. For more information, see Section 14.6.3, "About Discoverer Plus security and communication protocols".

Note: To deploy Discoverer Plus over HTTPS, you must select the Secure Tunneling security protocol in Oracle Application Server Control (Section 14.6.3.6, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol").

D.1.8 Discoverer memory issues

OracleBI Discoverer Plus becomes unstable when a workbook contains a large number of worksheets (e.g. more than 20) that contain graphs, typically maximized in a separate browser window.

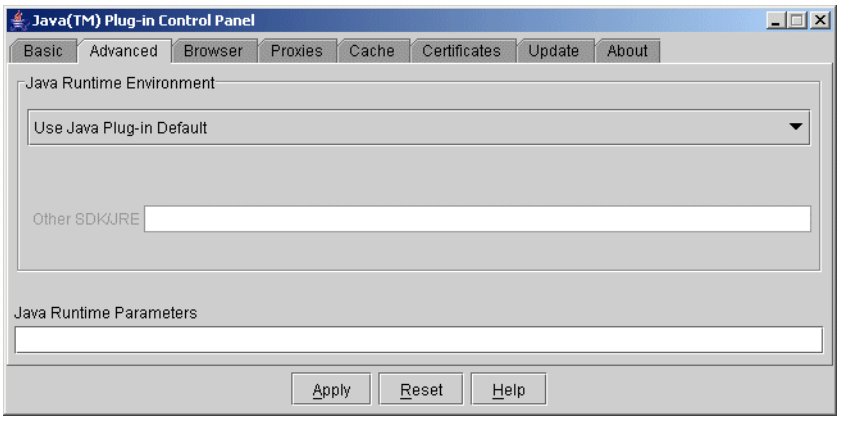
Problem

OracleBI Discoverer Plus displays an out-of-memory error when running on a client browser machine.

Solution

Increase the JVM maximum heap memory size, as follows:

1. On the client browser machine, display the JVM control panel (e.g. on a Windows machine, display the Control Panel, and double-click on the Java Plug-in icon).
2. Display the Advanced tab.



3. In the Java Runtime Parameters field, enter the following text:

   -Xmx<*amount of memory*>M

   For example, to increase the maximum memory level to 256MB, enter -Xmx256M.

4. Click Apply.

5. Restart Discoverer Plus on the client browser machine.

D.1.9 Discoverer Plus Relational help issues

OracleBI Discoverer Plus Relational context sensitive help might not work on Microsoft Internet Explorer and Netscape Navigator with Sun Java Plug-in if the proxy settings for the Sun Java Plug-in are not set correctly.

Problem

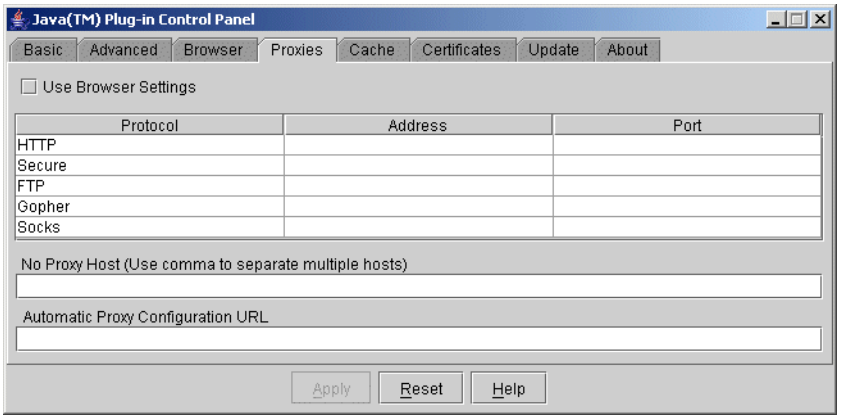
When an OracleBI Discoverer Plus Relational end user clicks Help when using a dialog, Discoverer does not display the correct help page for that dialog. In addition, links in the help table of contents and index do not work.

Solution

Change the proxy settings for the Sun Java Plug-in, as follows:

1. On the client browser machine, display the properties of the Sun Java Plug-in (e.g. on a Windows machine, display the Control Panel, and double-click on the Sun Java Plug-in icon).

2. Display the Proxies tab.



3. Make sure that the **No Proxy Host** field contains asterisks (*) to specify wildcards

   For example, .oracle.com should be specified as *.oracle.com.

4. Make sure that the value in the **Automate Proxy Configuration URL** field ends in .js or a .pac.

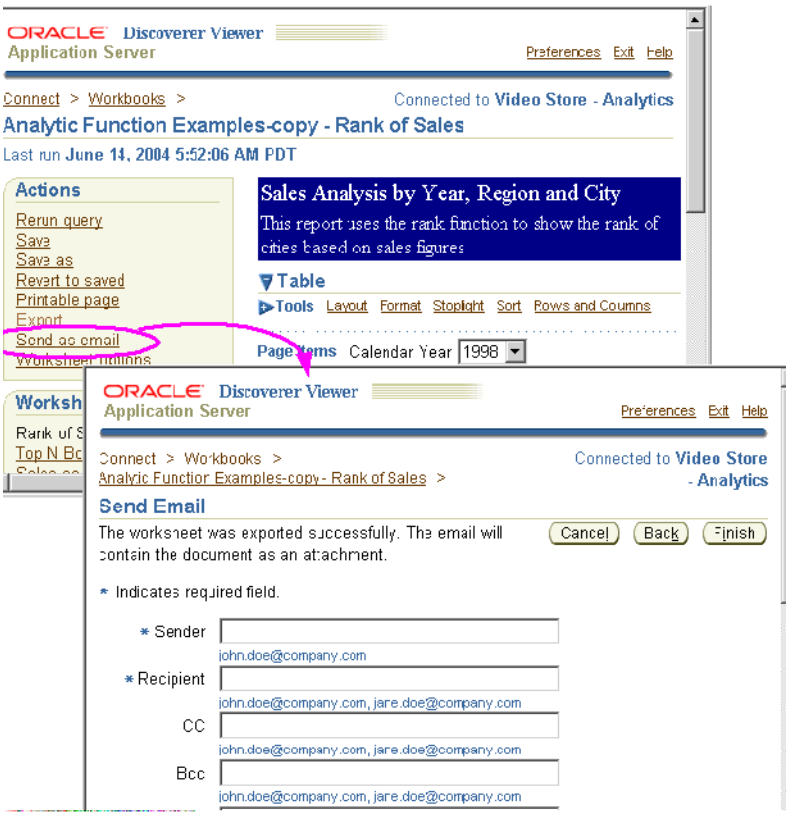
5. Click Apply.

6. Start a new client browser session and start Discoverer Plus.

D.1.10 Configuring a SMTP Server for Discoverer Viewer

Discoverer Viewer includes an option to send a Discoverer worksheet in an e-mail message by selecting the **Send as email** link in the Actions list (see figure below).

Figure D–1 The Send as email option in Discoverer Viewer



If you want to change the SMTP server used, you must configure the Discoverer middle tier to use a different SMTP server.

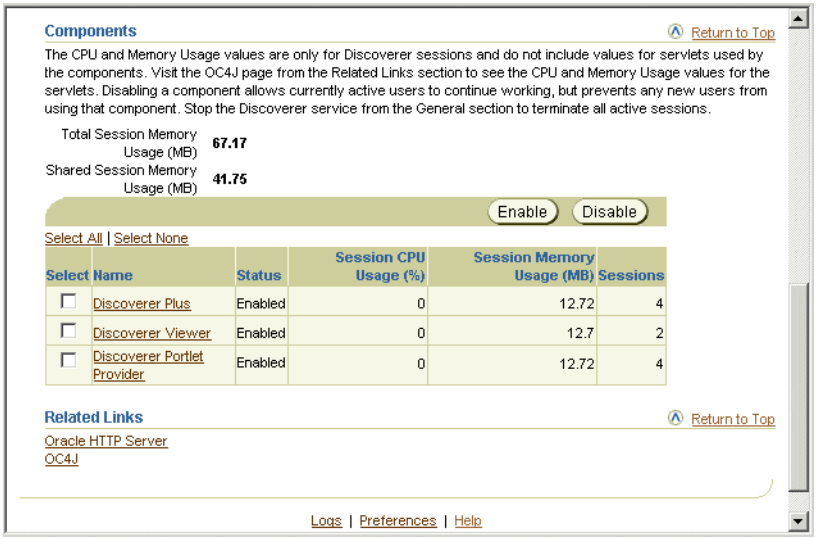
Problem

Discoverer Viewer is configured to use the wrong SMTP Server.

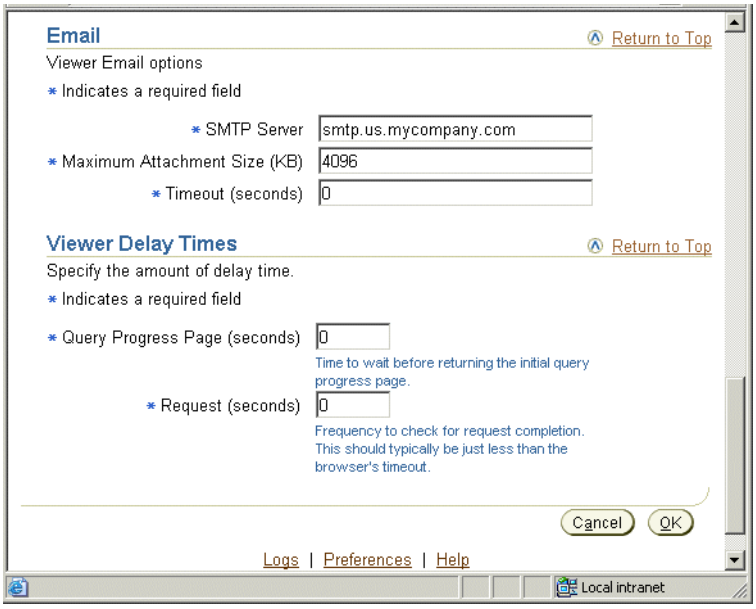
Solution

To configure the SMTP server for Discoverer Viewer:

1. Display Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
3. Select the **Components** link to display the Components area.



4. In the Components area, select the **Discoverer Viewer** link in the **Name** column to display the Discoverer Viewer configuration page.
5. Select the **Email** link to display the **Email** area.



6. Use the fields in the **Email** area to specify the SMTP server details.
7. Click OK to save the details.

   When Discoverer end users use the **Send as email** option to mail a worksheet, Discoverer Viewer will use the SMTP server that you specified.

D.1.11 Problem With Microsoft Internet Explorer, HTTP 1.1 Protocol and Compressed Data

Sometimes when using Microsoft Internet Explorer, the first 2048 bytes of data sent by a Web server using HTTP compression are lost. To find out more information about this problem, go to the following link:

`http://support.microsoft.com/default.aspx?scid=kb;en-us;Q313712`

Problem

The first 2048 bytes of data sent by a Web server using HTTP compression are lost.

Solution

Specify HTTP 1.0 on the client to disable HTTP compression, as follows:

1. Select Tools | Internet Options from the Microsoft Internet Explorer menu bar to display the Internet Options dialog.
2. Display the Advanced tab.
3. Clear both of the following check boxes (in the HTTP 1.1 settings category):
   - the **Use HTTP 1.1** check box
   - the **Use HTTP 1.1 through proxy connections** check box

D.1.12 Error: Could Not Open Web Cache Connection (WWC-40019)

The following error message appears if you try to publish Discoverer portlets after you have associated an OracleBI installation with an existing OracleAS installation:

```
Error: Could Not Open Web Cache Connection (WWC-40019)
```

Problem

Discoverer cannot open an OracleAS Web Cache connection when an end user tries to publish a Discoverer portlet.

Solution

Disable OracleAS Web Cache for OracleAS Portal content, as follows:

1. Log in to OracleAS Portal as the Portal administrator (for example, with the user name Portal).
2. Display the Administer tab.
3. Display the Portal sub-tab.
4. Select the Global Settings link in the Services area.
5. Display the Cache tab.
6. Clear the **Enable Web Cache for Caching Portal Content** check box.
7. Ensure that the **Host Name** field is set correctly.

   Note: If more than one Oracle Business Intelligence middle tier has been installed, the Host Name is updated with the most recent Oracle Business Intelligence installation. You might need to change the Host Name to that of a previous Oracle Business Intelligence installation.
8. Save the changes you have made by clicking Apply or OK.

D.1.13 Opening an exported Web Query file in Microsoft Excel containing non-ASCII dynamic parameter values

You need to set the encoding correctly in Microsoft Excel to correctly export Discoverer worksheets in Web Query (IQY) format containing non-ASCII dynamic parameter values.

Problem

Microsoft Excel users cannot correctly open a Discoverer worksheet exported in Web Query (IQY) format from Discoverer Plus Relational containing non-ASCII dynamic parameter values.

Solution

In Microsoft Excel, set the Excel encoding to UTF-8, as follows:

1. In Microsoft Excel, choose Options from the Tools menu to display the Options dialog.
2. Display the General tab.
3. Click Web Options to display the Web Options dialog.
4. Display the Encoding tab.
5. In the 'Save this document as' drop-down list, choose Unicode (UTF-8).

D.1.14 List of values (LOV) is too long for a Discoverer portlet URL

A list of values (LOV) might be greater than the URL limit.

Problem

When launching a list of values (LOV) from the worksheet/portlet provider parameter pages, if the total length of the current list of values in the text field is close to or greater than the URL length limit, the selected values may not work correctly when the LOV is launched.

Solution

Close the LOV window, empty the text field, and re-launch the LOV window to clear the selected values pane.

D.1.15 Specifying a parameter by index value in Microsoft Excel does not work for Web Query file

If you export a worksheet with a parameter value that uses the "let users choose value or index" option, Excel end users must enter a parameter value, not an index value.

Problem

No data is returned in a Microsoft Web Query (IQY) file after an end user specifies a parameter value using an index value.

Solution

The Microsoft Excel end user must specify a value for a parameter using an actual value (e.g. East) instead of an index value (for example, 1).

D.1.16 Redirect conflicts with Single Sign-On (SSO) and Secure Sockets Layer (SSL)

Redirect conflicts sometimes occur when both Single Sign-On (SSO) and Secure Socket Layer (SSL) are turned on, especially if a SSL site is not registered with the SSO server, but a non-SSL site is registered.

Problem

Redirect conflicts occur.

Solution

Do the following:

1. Register the SSL site with the SSO server using the `ossoreg.sh` tool.

   For information on registering a SSL site with the SSO server, follow the instructions in Chapter 4 of the *Oracle Application Server Single Sign-On Administrator's Guide*. See the section that is entitled "Configuring mod_osso with Virtual Hosts."

2. Modify the configuration file to point to the generated `osso-https.conf` file.

D.1.17 Worksheet customization issues

When you use a Discoverer portlet or when you access Discoverer Viewer from a portlet using the Analyze button, you might encounter an error if a customization made in Discoverer Viewer is in conflict with some aspect of the source worksheet.

Problem

When you use a Discoverer portlet or when you access Discoverer Viewer from a portlet using the Analyze button, an error message is displayed (e.g. "The application encountered an invalid state. OracleBI Discoverer Viewer was unable to find the necessary data for displaying the results of this event. Please correct any errors and try again.

Solution

Either recreate the portlet based on the updated worksheet or revert the worksheet to its original state.

D.1.18 Out of memory problems for the OC4J_BI_Forms JVM process

Discoverer end users might encounter errors if the OC4J_BI_Forms JVM process runs out of memory.

Problem

Typical problems related to JVM memory include:

- The error message `500 Internal Server Error` is displayed when a large worksheet is refreshing.
- The error message `Error: The listener returned the following Message: 500 Internal Server Error` is displayed when multiple users access the same Discoverer Portlet Provider.

Solution

To minimize memory error problems, encourage OracleAS Portal users to publish smaller worksheets as Discoverer portlets (e.g. those with less than 1,000 rows in a table or less than 1,000 cells in a crosstab).

To increase the amount of memory available to the OC4J_BI_Forms JVM process, do the following:

1. Start Oracle Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. Stop the OC4J_BI_Forms instance.

3. Drill to the Server Properties page.
4. In the Command Line Options area of the Server Properties page, set -Xmx in the Java Options.

   For example, change -Xmx512M to -Xmx1024M.
5. Press Apply to apply the changes.
6. Start the OC4J_BI_Forms instance.

D.1.19 Graphs do not display in Discoverer Viewer

If OracleAS Web Cache is enabled, graphs do not display in Discoverer Viewer unless OracleAS Web Cache has been configured.

Problem

Graphs do not display in Discoverer Viewer.

Solution

Create a caching rule in OracleAS Web Cache for the /discoverer/GraphBeanServlet/ URL (for more information, see Section 8.5.1, "How to create Discoverer caching rules").

D.1.20 Discoverer Portlet Provider issue

If Discoverer Portlet Provider is not correctly registered in OracleAS Portal, you might encounter errors when creating or editing Discoverer portlets.

Problem

You might encounter one or more of the following problems when using the Discoverer Portlet Provider wizard:

- When you click Next on the Database Connections page, the wizard does not advance to the next page.
- When you select the Edit Defaults link next to a portlet, then click Next, OracleAS Portal displays the following error message:

  ```
  An error occurred while handling the request in the
  controller.
  ```
- Pages in the Edit Defaults wizard load twice.

Solution

In OracleAS Portal, edit the Discoverer Portlet Provider registration settings and clear the **Web provider in same cookie domain as the portal** check box (for information on how to edit Discoverer Portlet Provider, see Section 11.4, "How to edit the Discoverer Portlet Provider"). For more information about how to register Discoverer Portlet Provider, see Section 11.3, "How to register Discoverer Portlet Provider with OracleAS Portal".

D.1.21 Availability of Discoverer connections

Discoverer connections are only available when an Oracle Business Intelligence installation is associated with an OracleAS Infrastructure.

Problem

The Discoverer connections page does not display connections and does not provide options to enable you to create private connections. End users can only connect directly using the Connect Directly fields.

Solution

Make sure that the Oracle Business Intelligence installation is associated with an OracleAS Infrastructure, by doing one of the following:

- associate an OracleBI standalone installation with an OracleAS Infrastructure (for more information, see Section 2.2, "How to associate an OracleBI installation with an OracleAS Infrastructure")
- install Oracle Business Intelligence as a Business Intelligence and Forms type installation (i.e. from an Oracle Application Server CD)

  A Business Intelligence and Forms type installation is associated with an OracleAS Infrastructure 10.1.2.1 automatically during installation.

D.1.22 Passwords not accepted as a URL parameter

For security reasons, in Oracle Business Intelligence release 10.1.2.1 you cannot specify a database password using a URL parameter.

Problem

Discoverer ignores a password specified on a URL with the pw= URL parameter, and the Discoverer end user is prompted for a database password.

Solution

If you use a private Discoverer connection, end users are always prompted at least once for a database password. You can also use the reuseConnection= URL parameter to reuse login details in the same browser session so that end users do not have to enter a database password repeatedly for the same private Discoverer connection.

For information about how to specify login information using a connection ID, see Section 13.3.2, "How to specify login information using a Discoverer connection". For more information about the reuseConnection URL parameter, see Section 13.7, "List of URL parameters common to Discoverer Plus and Viewer".

D.1.23 Customizing Discoverer Viewer

In Oracle Business Intelligence release 10.1.2.1 you can no longer customize Discoverer Viewer look and feel by directly editing XSL files on the middle tier.

Problem

You cannot find XSL files for Discoverer Viewer on the middle tier.

Solution

Use Oracle Application Server Control to customize the Discoverer Viewer look and feel (for more information, see Section 9.2, "Customizing Discoverer Viewer").

D.1.24 Firewall is causing Discoverer connections to be dropped

In Enterprise Deployment environments, load balancers and firewalls both have timeout settings for idle connections. If a component maintains a pool of connections that go through a firewall, the connection might be dropped.

Problem

Discoverer connections are being dropped in Enterprise Deployment environments.

Solution

Make sure the Oc4JConnTimeout value in the OC4J settings is less than the firewall timeout value. For more information about the Oc4JConnTimeout setting, see *Oracle HTTP Server Administrator's Guide*.

D.2 About Discoverer diagnostics and logging

This section describes the server diagnostic and logging facilities that are available in Discoverer, and contains the following topics:

- Section D.2.1, "What Discoverer diagnostics and logging facilities are available?"
- Section D.2.2, "What is the checkdiscoverer utility?"
- Section D.2.3, "About using the OracleAS View Logs facility"
- Section D.2.4, "How to use OracleAS View Logs to view Discoverer log files"
- Section D.2.5, "How to enable the Discoverer Services log file"
- Section D.2.6, "How to enable the Discoverer Servlet log files"
- Section D.2.7, "How to view the Discoverer Services log file"
- Section D.2.8, "How to view Discoverer Servlet log files"
- Section D.2.9, "How to copy Discoverer log files"

D.2.1 What Discoverer diagnostics and logging facilities are available?

You use Discoverer's diagnostics facilities to trace and diagnose problems with Discoverer. For example, if Discoverer's performance is slow, you might want to check that Discoverer's middle tier components are correctly configured.

The following Discoverer diagnostic facilities are available:

- Log files:
  - Discoverer Services log files (for more information, see Section D.2.7, "How to view the Discoverer Services log file")
  - Discoverer Plus log files (for more information, see Section D.2.8, "How to view Discoverer Servlet log files")
  - Discoverer Viewer log files (for more information, see Section D.2.8, "How to view Discoverer Servlet log files")
  - Discoverer Portlet Provider log files (for more information, see Section D.2.8, "How to view Discoverer Servlet log files")
- CollectLogs script - you can use the collectlogs utility to collect all Discoverer logs into a single location (for more information about using the collectlogs script, see Section D.2.9, "How to copy Discoverer log files").
- CheckDiscoverer utility - you can use the checkdiscoverer utility to verify a Discoverer configuration and report on failures or anomalies (for more information about the utility, see Section D.2.2, "What is the checkdiscoverer utility?").

- Discoverer Plus OLAP has its own diagnostics utility (for more information about the checkdiscoverer utility, see Section 6.6, "What is the configuration diagnostic utility for Discoverer Plus OLAP?").
- Log Files - select the **Logs** link on the Application Server Control page and display the Log Files tab to search for and display log files (for more information, see Section D.2.4, "How to use OracleAS View Logs to view Discoverer log files"). You can also display the Search Log Repository tab to search the Log Repository.

Notes

- When diagnosing Discoverer session information, you often need to know the session ID of the Discoverer Plus session that you want to monitor. A session ID uniquely identifies a session, which starts when an end user logs in to Discoverer and finishes when an end users logs out of Discoverer. You can then use this session ID to locate the corresponding server log.

  If Single Sign-On is deployed, you can use the Single Sign-On user name to monitor Discoverer sessions.

  To find out the session ID of a Discoverer Plus user's session, access the JInitiator console of the Discoverer Plus user and note the Session ID: <number> value.

D.2.2 What is the checkdiscoverer utility?

The checkdiscoverer utility is a script that checks the configuration of the Discoverer middle tier and middle tier components, and reports any failures or anomalies.

For more information about the checkdiscoverer utility, see Section A.1, "List of Discoverer file locations".

Note: Discoverer Plus OLAP has its own diagnostics utility (for more information about the checkdiscoverer utility, see Section 6.6, "What is the configuration diagnostic utility for Discoverer Plus OLAP?").

D.2.3 About using the OracleAS View Logs facility

The OracleAS View Logs facility enables you to query and view log files from OracleAS applications. For example, you might want to produce a list of all Discoverer sessions running on a particular Discoverer middle tier machine.

Note: The OracleAS View Log facility is an alternative to using the **Logs** link on the Application Server Control Discoverer Home page, or the **View Log** links on the Performance page for each Discoverer servlet.

D.2.4 How to use OracleAS View Logs to view Discoverer log files

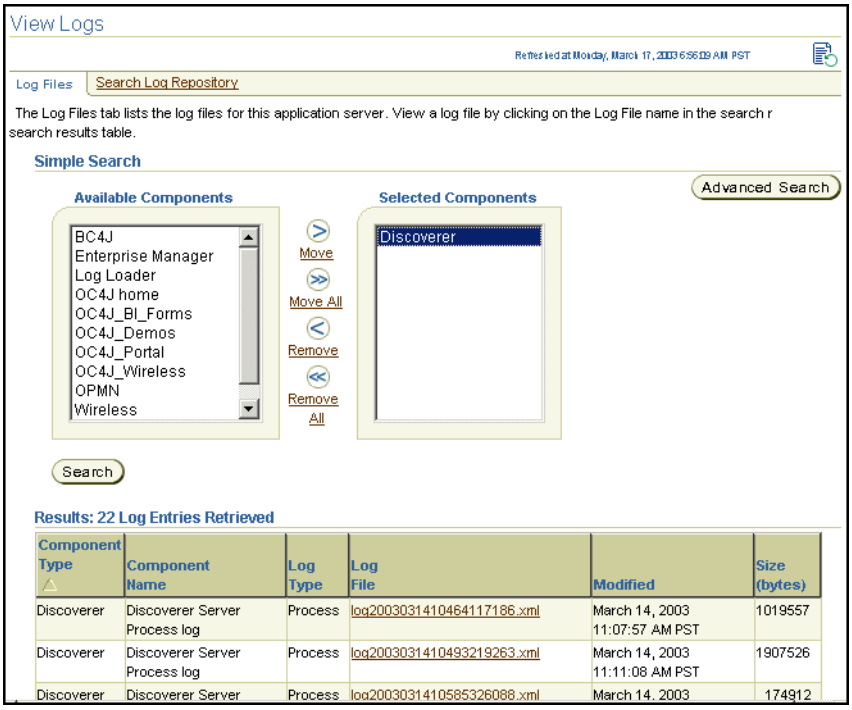
You use the OracleAS View Logs facility when you want to search for particular Discoverer logs. For example, you might want to look at session log files for a particular Discoverer component.

To use OracleAS View Logs to view Discoverer log files:

1. Display Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. In the **Name** column, select the OracleAS instance containing the Oracle Business Intelligence installation where OracleBI Discoverer is installed.
3. If prompted, enter an Application Server Control user name and password.

Application Server Control displays a list of OracleAS System Components available for the Oracle Business Intelligence standalone CD installation (e.g. Discoverer, HTTP Server).

4. Select the **Logs** link in the Application Server Control header to display the View Logs page.
5. Add Discoverer to the Selected Components list.
6. Click Search to display all Discoverer Services log files for that machine.



7. Select a link in the Log File column to display that log in detail.

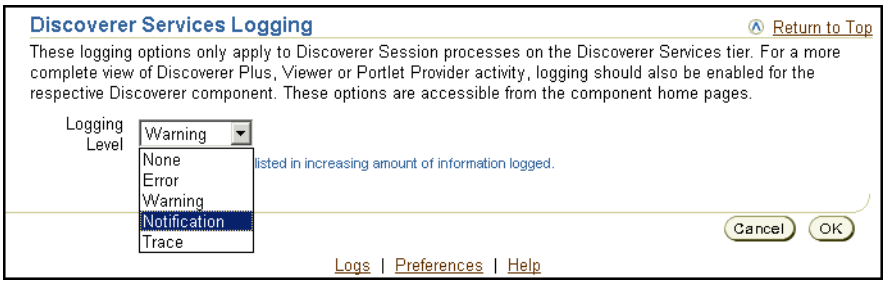
   Hint: To find more specific logging information, click Advanced Search to search by log file attributes, or display the Search Log Repository tab to search all logs.

D.2.5 How to enable the Discoverer Services log file

You enable the Discoverer Services log file when you want to monitor Discoverer session processes.

To enable the Discoverer Services log file:

1. Display Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
3. Display the Administration tab.
4. Select the **Services Logging** link to display the Discoverer Services Logging area.



5. Enable the Discoverer Services log file as follows:
6. Select a logging level from the **Logging Level** drop down list.

   You can now monitor the Discoverer Services log file (for more information, see Section D.2.7, "How to view the Discoverer Services log file").
7. Click OK.

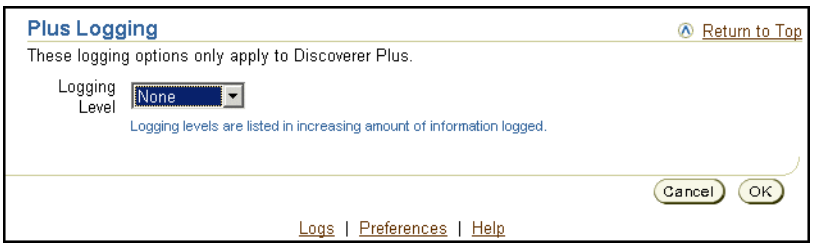
D.2.6 How to enable the Discoverer Servlet log files

You enable the Discoverer Servlet log files when you want to monitor Discoverer servlet activity.

To enable the Discoverer Servlet log files:

1. Display Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
3. Select the **Components** link to display the Components area.
4. Display the home page for the Discoverer servlet for which you want to enable log files and select one of the following links in the **Name** column:
   - for the Discoverer Plus servlet log file, select the **Discoverer Plus** link
   - for the Discoverer Viewer servlet log file, select the **Discoverer Viewer** link
   - for the Discoverer Portlet Provider servlet log file, select the **Discoverer Portlet Provider** link
5. Select the **Logging** link to display the Logging area.
6. Select a logging level from the **Logging Level** drop down list.

   For example, the figure below shows a logging level being selected for Discoverer Plus.



7. Click OK.

You can now monitor the Discoverer servlet log file that you enabled (for more information, see Section D.2.8, "How to view Discoverer Servlet log files").

D.2.7 How to view the Discoverer Services log file

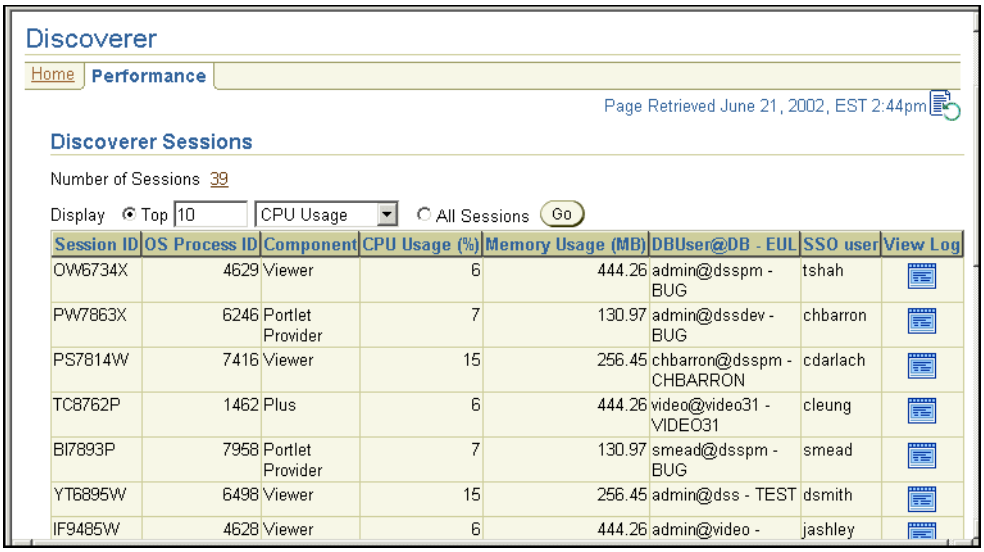
You view the Discoverer Services log file when you want to monitor Discoverer.

Note: The Discoverer Services log file must first be enabled (for more information, see Section D.2.5, "How to enable the Discoverer Services log file").

Hint: You can also use the OracleAS View Logs facility to search for and view Discoverer log files (for more information, see Section D.2.4, "How to use OracleAS View Logs to view Discoverer log files").

To view the Discoverer Services log file:

1. Display Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
3. Display the Performance tab.



Session ID	OS Process ID	Component	CPU Usage (%)	Memory Usage (MB)	DBUser@DB - EUL	SSO user	View Log
OW6734X	4629	Viewer	6	444.26	admin@dsspm - BUG	tshah	
PW7863X	6246	Portlet Provider	7	130.97	admin@dssdev - BUG	chbarron	
PS7814W	7416	Viewer	15	256.45	chbarron@dsspm - CHBARRON	cdarlach	
TC8762P	1462	Plus	6	444.26	video@video31 - VIDEO31	cleung	
BI7893P	7958	Portlet Provider	7	130.97	smead@dsspm - BUG	smead	
YT6895W	6498	Viewer	15	256.45	admin@dss - TEST	dsmith	
IF9485W	4628	Viewer	6	444.26	admin@video -	jashley	

4. Click a file icon in the **View Log** column on the Performance page to display the View Logs page.

D.2.8 How to view Discoverer Servlet log files

You view the Discoverer Servlet log files when you want to monitor Discoverer servlets.

Note: The Discoverer Servlet logs must first be enabled (for more information, see Section D.2.6, "How to enable the Discoverer Servlet log files").

Hint: You can also use the OracleAS View Logs facility to search for and view Discoverer log files (for more information, see Section D.2.4, "How to use OracleAS View Logs to view Discoverer log files").

To view the Discoverer Servlet log files:

1. Display Application Server Control (for more information, see Section 5.1.2, "How to start Application Server Control and display the System Components page").
2. Display the Application Server Control Discoverer Home page (for more information, see Section 5.1.3, "How to display the Application Server Control Discoverer Home page").
3. Display the Performance tab for the Discoverer servlet that you want to monitor, as follows.
   - to monitor Discoverer Plus - select the **Discoverer Plus** link, display the Performance tab, then click the View Log icon for the session that you want to monitor.
   - to monitor Discoverer Viewer - select the **Discoverer Viewer** link, display the Performance tab, then click the View Log icon for the session that you want to monitor.
   - to monitor Discoverer Portlet Provider - select the **Discoverer Portlet Provider** link, display the Performance tab, then click the View Log icon for the session that you want to monitor.

D.2.9 How to copy Discoverer log files

You might want to copy all Discoverer logs into a single location. For example, to provide a snap-shot of a Discoverer middle tier machine, or to provide an archive of Discoverer log files.

You use the collectlogs utility to copy Discoverer logs into a single location.

For more information about the collectlogs utility, see Section A.1, "List of Discoverer file locations".

To copy Discoverer log files to a single location:

1. On the Discoverer middle tier machine, type the following at a command prompt:

   ```
   collectlogs <logs target location>
   ```

   where <*logs target location*> is either a TAR filename (UNIX) or a folder name (Windows).

The Discoverer log files are copied to the specified location.

Notes

- The collectlogs script collects the following information:
  - middle tier Discoverer logs
  - application.log file
  - .reg_key.dc file
  - env information
  - Discoverer server files (i.e. all files in <ORACLE_HOME>/discoverer/bin and <ORACLE_HOME>/discoverer/lib)
  - UNIX specific system parameters (e.g. /etc.hosts, ifconfig output, showrev -p output, uname -a output, ulimit -a output)

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